

BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

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In the Matter of: : DOCKET NO.

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FERC

888 First Street, N.W.

The Commission Meeting Room

Washington, D.C.

Wednesday, October 2, 2002

The above-entitled matter came on  
for public meeting, pursuant to notice at 9:30 a.m.

## APPEARANCES:

On behalf of FERC:

William Hederman, Office Director, OMOI

Alice Fernandez, Division Director, OMTR

Rob Gramlich, Office of the Chairman

Richard O'Neill, Division Director, OMTR

George Gooding, Division Director, OMOI

Laurel Hyde, OMOI

David Mead, OMTR

Deborah Ott, OMTR

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## A G E N D A

Panel I Academics, FTC, DOJ, & others 9:30 - 11:00

Paul Joskow, Massachusetts Institute of Technology,  
Economics

John Hilke Federal Trade Commission

Jade Eaton, Department of Justice

Kenneth Rose, National Regulatory Research Institute

Kristin Domanski, Energy Security Analysis, Inc.

Scott Harvey, LECG

Panel II Market Monitoring Units 11:00 - 12:30

David Patton, Independent Consultant, MISO

Anjali Sheffrin, CAISO

Frank Wolak, Stanford University, CAISO

Robert Ethier, ISO NE

Steve Balser, ISO NY

Joseph Bowring, PJM ISO

Lunch Break 12:30 - 1:30

Panel III NYMEX, CFTC, SEC & others 1:30 - 2:15

Robert Levin, NYMEX

Randall Dodd, Professor, Financial Advisor

William Kokontis, CFTC

Alton Harvey, SEC

Robert Nordhaus, Energy Attorney

Panel IV Market Participants            2:30 - 4:00

Mayer Sasson, Consolidated Edison

Linda Clarke, Exelon Power Team

Susan Kelly, NRECA

Vito Stagliano, Calpine

John Stout, Reliant

Gerit Hull, Pacificorp

Panel V Consumers & State Representatives 4:00-5:00

George Stojic, Michigan Public Service

Mark Reeder, NYPSC

Mark Cooper, Consumer Federation of America

Denise Goulet, PA Office of Consumer Advocate

## PROCEEDINGS

[Time noted: 9:30 a.m.]

MR. HEDERMAN: Could we take our seats, please?

We have a lot to do today, let's please take our seats. Excuse me, seats.

Thank you. We have a lot to do today. We appreciate all the interest as I can see from the audience here today. We will have a series of five panels. We have a long day. We appreciate all the panelists who have kindly offered to come and share their thoughts with us. The approach for each panel will be just to let each panel member briefly introduce him or herself and then we will start with questions from our panel here on the Commission side.

We've got FERC staff here, Bill Meroney who is the primary author of the Strawman. Laurel Hyde from OMOI; George Gooding from OMOI; Dick O'Neill from OMTR; Alice Fernandez from OMTR and key author of a lot of the SMD staff work; Rob Gramlich from the Chairman's Office; Dave Mead from OMTR; and Debbie Ott from OMTR.

So we will have the first panel, we hope, will address many of the concepts from economics and how they apply to market monitoring, what is important to be watching.

The second panel will bring the front lines to

the table in terms of the market monitors from several of the operating electricity markets.

We will start off the afternoon with a panel with persons involved in market monitoring in other markets and hope to get some insights from the best practices they've developed with many more years of experience. And then we'll have two panels of participants in the markets, first from the supply side and second from the customer side.

With that, if you could each introduce yourself.

Professor Joskow; welcome, Paul.

#### PANEL I ACADEMICS, FTC, DOJ, AND OTHERS

MR. JOSKOW: Thanks, Bill.

My name is Paul Joskow. I'm professor of economics and management at the Massachusetts Institute of Technology in Cambridge, Massachusetts. I am also director of the MIT Center for Energy and Environmental Policy Research.

I'm obligated to say that anything I say that anything I say here today are my views and not MIT's views or the views of anyone else I'm associated with. But it's a pleasure to be here. Thanks.

MR. HEDERMAN: Thank you. John.

MR. HILKE: I'm John Hilke, Bureau of Economics of the Federal Trade Commission. I also have the disclosure that I'm speaking for myself and not necessarily for our

Commissioners.

MR. HEDERMAN: Thanks. Jade.

MS. EATON: Hi, I'm Jade Eaton. I am an attorney at the United States Department of Justice Antitrust Division. And I make the same disclaimer. My comments are my own and I thank you for the opportunity to participate today.

MR. HEDERMAN: Ken.

MR. ROSE: Ken Rose from the National Regulatory Research Institute. We are the research arm of Merit Estate Organization. I don't speak for anybody.

[Laughter.]

MR. ROSE: Anybody --

AUDIENCE PARTICIPANT: [Off mic.] We can't hear back here.

MR. HEDERMAN: Yeah, if you can work the switch on your mike as you're speaking, that would be helpful.

MS. DOMANSKI: Hi, I'm Kristin Domanski and I'm the manager of Electricity and Natural Gas Analytics at Energy Security Analysis in Boston. And we are an independent market research and analysis firm and we thank you for inviting us here today.

MR. HEDERMAN: You're very welcome. Scott.

MR. HARVEY: I'm Scott Harvey. I'm a consultant with LECG and I also am not speaking for anybody except

myself. Particular things I say don't reflect the views of New York ISO or midwest ISO necessarily, and I'm happy to be here.

MR. HEDERMAN: Thank you. Well, what we would like to talk about with you is what performance factors are critical for us to measure? Within the document that you received of the draft thinking by staff, there are about seven pages of ideas of metrics. And we expect that many of those will be metrics we'll follow, but we do need to develop a sense of priorities in terms of what are the key metrics for us to follow. And we'd like a sense of your top ten, if you will. If I don't ask it, you each give your top ten. But we've got to focus in on a few metrics. What is it absolutely essential for us to be following?

Anyone care to open? Paul, go for it.

MR. JOSKOW: Well, I think the paper is properly divided into three areas, market structure, market performance and market behavior. On the structural side, I think the metrics that I like to look at to get some sense for my expectations for how the market will perform are the size distribution of sellers in the market, as you suggest, in particular the size distribution of sellers that may determine the market clearing price, especially during high demand periods.

You suggest looking at pivotal supplier analysis.

I think that's important. A second structural feature that I think is important is looking at the extent to which there's significant contract cover in the market. That is the extent to which a large fraction of demand is covered with forward contracts with the fixed prices or formula prices. I think that's not emphasized enough in the paper.

A third aspect of performance is the extent to which demand is well represented in the market and consumers either directly or indirectly through their load serving entities can respond to a day ahead and real time prices.

And I think a final structural feature that you're going to have to look at when the SMD is implemented is the ownership of congestion revenue rights and the extent to which they might enhance market power.

So I think on the structure side you've got them all there. I think I would emphasize a bit more the extent to which there is contract cover because I think that affects the incentive suppliers have to exercise market power and the demand side as well.

On the performance side, I personally think that it's very useful to do the kind of competitive benchmark analysis that has been done in California, it's been done for New England for PJM, for England and Wales, for Sweden and other countries. I think if it's done right and used right, it can provide you with a sense for whether the

market is performing well. It doesn't have to perform perfectly. Perfect competition isn't the goal.

But it provides some sense for whether you're more or less representing in the market what you would expect from a textbook market. It allows you to identify what may be anomalies for further investigation and I think there's been a lot of work both in academia and also in application that the ISOs to make that work relatively easy to do.

You asked questions in the document about data to do that. I think, at least to the market monitors, and you ought to get all the data you need to do that kind of analysis. There are always questions about what data and when it should be released to the public.

I also think that's important because if a market seems to be performing reasonably well based on textbook country, it eases the burden of the market monitors to then get into individual behavior. I think in a sense there should be more focus on how is the market performing well overall and less focus on how individual suppliers or demanders are behaving under particular circumstances. I think you only want to start exploring in detail individual behavior when you have a sense that there are market performance problems that are indicated from that type of analysis and others.

And where there are market performance analysis, I think I would be focusing primarily on withholding behavior that is supplies that are not in the market when it would appear that they should be in the market. And exploring with the suppliers why it is that they're not offering their supplies to the market or offering it at very high prices.

I think we need better data in that area. The data needs to be credible as to why there are outages of generation and transmission capacity during -- especially during critical periods. Along with the improvements in accounting practices that are going on. Elsewhere I think there's probably room for improving the credibility of reporting on outages as well and I would encourage you to work with the ISOs and RTOs and ITPs, and market monitors to make those data available to market monitors and to you.

Why don't I stop there. Maybe I gave you six or seven.

MR. HEDERMAN: Okay. Thank you.

MR. HILKE: Are we just going to go down the row?

MR. HEDERMAN: That works; sure.

MR. HILKE: I guess I would echo most of what Paul said. I think one of the fundamental issues that you ought to ask yourselves is what you're going to use the data for. And I am sort of going to steal something that Jade

and I were just talking about a moment ago, and that is, I would hope that the ultimate -- or not the ultimate, but one of the uses that you will make of the data is to do some reasonable modeling and using the dispatch models of RTOs themselves was probably an excellent place to start. But basically the data you need to be gathering is the data that you'll use to be looking at such issues as what is the geographic market at different points in the day or different seasons of the year. And the information that you need to do that is critical to doing any of the calculations about what the market structure actually looks like at those points in time.

So I would -- even though we're sort of starting at what data to collect, I think it's most useful to start with what you're going to use the data for and make sure that the data you're collecting is appropriate for the modeling that you're hoping to do and that it's in a format that you can easily use. The mechanics of this process can be really mind boggling.

Just talking briefly to some of the folks in Colorado who did their modeling exercise, they had a consensus proceeding under which they had individual suppliers update, let's say, the heat rates for their plants and so forth. And this basically took like six months to do. So it's important to recognize if you're going to use

the data in certain ways and you know ahead of time how you're going to use it that you get the data in ways that you can use.

I guess the other thing I would say is that structure analysis isn't just about concentration measures and so forth. It's also important to think about what entry conditions are and how they're changing over time looking at demand elasticity measures and how they're changing over time, how demand response programs are coming in and how they're affecting really the likelihood that you're going to have a market power problem to start with.

So I guess I'll stop there.

MR. HEDERMAN: Thanks. Jade. And put your mike on. It's important to speak fairly closely to the mikes too for the audience to hear, if you want --

MS. EATON: All right. I actually feel like I should have been on the second panel because I'm not a theorist. I actually have to examine markets and not imagine them, although it's important to imagine what markets should be like.

But I wanted to say something that I think I can say from my enforcement perspective. And that is that I have had to examine transactions for conversation effects in markets where there is something that presently kind of approximates standard market design, some congestion

pricing, large regional RTO. And then I've had to examine transactions in markets that do not in any way presently resemble SMD. And the monitoring function is hands down easier with SMD. Just from an enforcement perspective, having to go back and examine a transaction where there isn't standard market design it's like suddenly finding that, you know, you have no technology, you have no data, you're back to asking engineers about your market definition in terms of congestion areas and it's extremely difficult. So everything you're doing is in the right direction.

That said, I concur with the previous two speakers and I want to point out one additional practical issue that's come up in our enforcement, particularly regarding load pockets. And this would apply to any pivotal supply kind of analysis. Import capabilities are set based on actual contingencies in the market. The import capability is not just a single number as we all know. It has to do with whether there is generation inside the load pocket pushing back, et cetera.

And as a result, we have found in some investigations that the reported, and correctly reported import capability are orders of magnitude higher than actual practice. And that's because if you have a situation in which there is a plan inside a load pocket that is going through a shakedown period, it's a new plant, you can't tell

when it's up or down, and it is one of the contingent plants on which import capability is based. It can change your import capability substantially.

A second thing about import capability to keep in mind is that you can have a situation where a new plant comes on board for entry and it doesn't change the competitive circumstances because it will close the door to imports to exactly the same amount that it adds to capacity in the load pocket. This isn't always true, but it can be true. So you can have a fairly large plant come on line, figure that that's adding to capacity in the market that's available and it's really not.

So what does this have to do with metrics? What I want to point out is that under SMD market monitors are going to be able to have access not to the approximations that we use in market analysis on a general basis, but actual data on a day-to-day basis, ability to do what we do when we examine these markets. Talk to the dispatchers, find out what the real import capabilities are over time because of what has actually happened. How much has come into this load pocket over time at certain critical times?

You have real price information. You have bid stacks to examine. You don't have to look at concentration to figure out if somebody has the ability to do something. You can look at their bid data.

So, when you're looking at metrics, I would just remember that a number of the structural things that we have to use because we don't have the raw data may be more important for determining the kind of initial test that Paul was talking about which is doing a diagnosis that one market is more -- requires more scrutiny. But after that, you've got raw data, you've got much better information than anybody used to have, and market monitors should have that data being kept in a format that they can use then to analyze problems. So those are my comments.

MR. HEDERMAN: Thank you. Ken.

MR. ROSE: Let me just start off by saying, I guess, overall I thought that the metrics had a pretty good outline of everything. So I think probably what you'll hear a lot of are kind of just the particulars, even though it sounds critical, I think over all you've captured a lot of what market monitors have been doing, particularly on the function and structure part seem to parallel obviously with what a lot of the market monitors are doing now. And I think you'll -- when that panel comes on later, you'll maybe hear there are a few things here and there, but overall it seems to capture that.

On the performance, I think echoing what Professor Joskow said and others, performance is perhaps the single most important, not that the others are unimportant,

because the others are really giving you some guidance on what's happening on the structure, but the performance measures are really critical.

And one thing I've seen in quite a bit of what you wrote is both in the NOPR and I think it's also in here that the -- that there's a certain amount of trying to be flexible, but at the same time having consistency across the different ITPs and the market monitors. That's very important. But in thinking about it, it's the implementation that's really the critical part. And that doesn't -- you can have the best metrics in the world, but if it's not implemented well, it's not going to mean a whole lot.

And the problem is, you can see already, the way that some of these metrics are being calculated will vary from market to market even though they'll call it exactly the same thing. And it takes a while to figure out, you know, just what they mean. A prime example that fits into the performance, of course, is the Lerner Index. Eb is pretty much agreed on what the Lerner Index is, but how you calculate that marginal cost is extremely important.

I'll also throw in my support for the idea of a benchmarking analysis. But others will use some kind of a benchmark perhaps where they're adding opportunity costs or just considering the opportunity costs itself which is a

very dangerous area to get into because it means that you can create marginal costs that are very large and understate the Lerner Index.

Well, if that's inconsistent across the ITPs and what the market monitors are doing, then doing comparisons across them isn't going to mean very much.

So somewhere in there has to be some talk about how it's implemented. And I think, again, in the NOPR it's mentioned different ways of calculating this and also I think it's in the strawman proposal. But I think in the final rule the Commission is probably going to have to stick its neck out a little and say just what it means by implementation and pick one of those, or at least provide a little bit more guidance. How to do that without, again, putting in the straight check and losing that flexibility you want the same time as the problem, but you're smart people you'll figure it out.

The other -- just one aspect in terms of the different metrics too. Again, I thought overall they were pretty good and they would capture a pretty good idea of what's happening in the market which is good.

I would add maybe a little bit about -- I'm going to use the word "forecasting" but I don't mean "forecasting" like prices and things, but a little look ahead at what's happening in terms of reserve margins and things. Reserve

margin is there, but I didn't see that kind of temporal aspect to it to try to say, well, what -- you know, these numbers. I think Jade mentioned something about that where you have power plants coming on line, how is that affecting what will happen, say, within the next five years if you don't get too carried away with that. Because that may be a little bit different, a little bit out of the scope of what a market monitor generally does which is, you wouldn't want to do price forecasting, for example, but you may be able to forecast based on actual hard information that you have now like planned -- a power plant's planned capacity additions, planned transmission capacity additions that might give you a sense for how the structure may change in the next few years. And that would give people a sense of what, if there's anything in particular to watch out for in the not too distant future.

On kind of the general market behavior versus participant, just a warning against not getting too carried away with looking for bad actors. I know we've -- you know, we've had obviously a lot of bad experience, but, you know, given all of the -- we must have some of the cleanest power available now because of all the wash trades and megawatt laundering we've had lately.

[Laughter.]

MR. ROSE: So I guess that's all cleaned up.

MR. HEDERMAN: Okay. We have our top ten on puns for the day.

[Laughter.]

MR. ROSE: The overall market performance again I think is the more important thing, and when you spot something going on, then you go into particulars, I guess that's the simplest way to say that.

On the availability of the data, that's extremely important. Just kind of a test, I guess I'm wandering into -- actually we're supposed to do this the last hour, but I think it's very important that just a general rule of thumb might be, can graduate students who wants to do a dissertation get sufficient data to be able to do a credible analysis of a market or markets. Please make enough -- and I think you can do this in aggregated form. If it's too disaggregated, then obviously there's proprietary problems and now we've got the added problems of national security.

We don't need addresses of power plants, things like that. But having the data in an aggregated enough form, but disaggregated enough that somebody else can do the analysis besides just the market monitor and the Commission. FERC will have obviously a lot of information that others won't have.

So don't close that option out because I think that's very important in terms of the creativity of being

able to come up with new idea and ways of looking at this which I think will be helping us inform the debate as the markets develop.

Thank you.

MR. HEDERMAN: Kristin.

MS. DOMANSKI: Okay. First, after listening to my colleagues' comments here, I have a few additional comments. First of all, in terms of supply margins that Ken just spoke of, there's two important things to also keep in mind in terms of future supply given the state of the energy market right now and project financing in the post-Enron world. There are a lot of projects being put on hold, some indefinitely, and some that say they will come on line within, let's say, four years, are likely to be canceled altogether in light of current landscape.

So that should be kept in mind in addition to how much of a percentage of your reserves come from hydro resources. Now I'm specifically referring to the west in this case, given that the west is as we saw in 2000 and 2001 with the drought situation it definitely helped add to the California crisis. So just to draw attention to the hydro and the investment situation in the market.

In terms of looking at load pockets, I agree that it's definitely the first step. In looking at a market you need to identify the pockets and identify the reasons why

these pockets were created, whether it's transmission constraints, look at the grid access, difficult siting policies in that region, and quantify the spread between areas. For instance, in NEPOL looking at the spreads between the northeast mass market that's heavily congested with markets in New Hampshire and Maine that would be less congested. And determine where investment is needed. And if it's transmission investment, and then look if that investment should come from private equity or it should come from public funds.

In terms of modeling, I think what's very beneficial as a step up from a dispatch model is power flow -- optimum power flow modeling where you're combining the economics of the market with the actual physical realities of the system which can sometimes explain price anomalies where perhaps a locational price was determined by a unit that wasn't necessarily the next least cost unit needed to meet that level of load, but because of system realities and loop flows and things like that, the next megawatt that actually was needed to meet load might have been a more expensive unit.

So in modeling efforts, I would suggest looking more at combining the engineering physical flows with the economics of the system.

Another main point that I didn't think was

addressed enough in the strawman, although input fuels were touched upon, I think there has to be -- and I know FERC has come out recently saying they're going to start paying much more attention to the natural gas market -- but I think that knowledge and understanding of locational prices. And what sort of input fuel costs -- most of the marginal units in many areas, as you know, are natural gas fired and gas is becoming more and more important in our regional power markets.

So I think a better understanding of locational pricing and understanding of how these generators are securing their supplies, whether if they are peakers needing to go to the spot market or CCGTs that have supplied -- sorry -- secured long-term supply contracts.

And this net gas issue kind of segues into probably the biggest issue that I see in terms of a data perspective, and transparency is the market performance measurement of liquidity. And hand-in-hand with that, I would say, price transparency is something that is really lacking in this market.

And what's come out recently over the past few months is the fact that a lot of the indices that all of us have looked at to gauge gas and power prices perhaps weren't really reflecting the actual costs or prices in the marketplace. Specifically, spot gas prices, basic indices

that are looked at now have been called into question because of possible manipulation by parties like Enron and the western market.

In the power sector, basically the transparency comes from the bilateral market. So it comes from the trade press. Or if you happen to have access to a broker feed or to a Bloomberg box, you can see what's trading in the marketplace. But what is lacking is what the natural gas futures market has in oil which is a futures exchange. And the exchange provides the transparency, the liquidity, open interest and volume data that we really don't have transparent right now in the energy markets. And this data is critical in assessing market liquidity. Because right now I'm sure everyone in the room would agree that PJM is one of, if not the most liquid hub followed by probably Synergy.

In terms of market trading, in recent months liquidity is rapidly drying up mostly due to the exit of many major market makers such as Acquilla and Enron, and many other major companies scaling back on their trading operations. As well as credit issues becoming a problem and practices like something called "sleeving" where you basically find someone else to do a trade for you if your credit isn't good enough for the counter party.

This is definitely cause for concern because you

want a liquid market where participants can go and be secured that they can have a vast array of suppliers to offer them anything from short-term to long-term deals.

So looking at the natural gas market which has a very successful futures exchange and Henry Hub contract that everyone looks at as a national index and prices are based locationally off of Henry Hub for the most part. And even in the west where the supply is not coming from Louisiana Gulf Coast, gas prices in the spot market move generally in tandem with Henry Hub if there's a certain level of volatility.

Given that, Nymex did attempt to start an electricity futures market. Those contracts essentially in the end failed and I think it's very important for perhaps FERC to lead the charge and Nymex revisiting this issue and working with parties like PJM, New York ISO in developing a contract or contracts that would work that would be effective and that would get participants into the market, increase liquidity, and provide the industry with a benchmark. Let's say a PJM West contract that's seen as the national hub that everyone -- every other location sort of has a basis to.

In terms of liquidity and transparency, I think that that is one of the most critical issues to be addressed given that we found in the past few months the very

subjective prices that have been distributed to the market.

And a lot of a analysis including the price cap that was calculated for the west is based on these gas prices that are now suspect. So in order to really, as far as being a regulator and coming up with an effective price cap or bid cap or any sort of market monitoring metric, you need to be dealing with the accurate input information.

MR. HEDERMAN: Thank you. Scott.

MR. HARVEY: I guess I would think that the most important metric is the one you labeled "withholding and output gap analysis." Is that the one I would start with and probably even my second, third, and fourth metric. I think that the metric has to be applied though to, it has to take account of transmission congestion; it has to take account of where you are carrying reserves; it has to take account of ramping constraints; it has to take account of where you're carrying your regulation; it has to take account of the environmental limits on the units; it has to take account of your ratings. And that might seem incredibly hard and complicated, and we could possibly do it, but I know that New York ISO has that information every day. We do it routinely.

And I suspect strongly, when you talk to Joe Bowring, he'll tell you that in fact PJM has that information every day. And Andrew Hartshore and I talked

his over and if we wanted we could run a simple little macro and give you the total amount of all the locations in New York where the price was over \$250 for every interval, how much capacity was not being dispatched because it was offer price. It's not hard. It's really easy when you have an SMD design like Jade was saying.

And that doesn't answer whether it was at high cost generation or low cost generation, or what, that requires another inquiry, that's what David does -- David Patton does. So that's the right metric, but you can't kid yourself by ignoring all those things, because then you get a nonsense answer.

When we have thousand dollar prices in New York, sure we have some undispached energy in other places. And we have energy that's providing reserves and with capacity that's providing regulation. I've seen the SEUC solution on days with a thousand dollar prices, and, sure, we have lots of \$70 energy we aren't dispatching. It's providing reserve for regulation, or it's in a location we got a constraint on that bad day.

So there are diagnostics that will tell you, our offer price is affecting the solution or not, and you just have to do it.

Related to that, the question of confidentiality in what we disclose, if we were calculating that statistic,

I would be happy to have an ISO provide that to FERC but with the understanding it went no further. I certainly wouldn't want every market participant to be able to look up and see, for each interval, how close we were to having to take -- you know, how short we were. It is not a good metric to have out there.

[Laughter.]

MR. HARVEY: I remember from my FTC antitrust enforcement day dealing with companies that had difficult negotiating situations for their buying their gas and buying their coal and they didn't necessarily tell in those negotiation their true heat rate to people. And sometimes they even operated their plant on a heat rate that was different than the true heat rate in order to bargain when they didn't really have a strong position.

So I don't think that all this information should necessarily go to everybody in the world. And I really disagree with the standard that the graduate student should download all the data off the Internet to do the study. I think maybe if he comes and works for the New York ISO and signs a code of conduct or goes to PJM and signs a code of conduct, then he can do the analysis. But I don't want everybody in the world to know the bids.

I disagreed strongly with Enron that they wanted to see how our machines worked on the inside, I don't think

they need to do that. They're entitled to know that the solution is consistent with their bids. They aren't entitled to know all the interworkings.

Third, related to that, simulation analysis is useful. I think all the ISOs do it, but it's only useful if you do it based on your dispatch model and your day-ahead commitment model.

In New York using rerunning cases and SEUC is useful for diagnostics, for understanding market power, for understanding how things would be different. But the solution we get out of SEUC is radically different from something you're getting out of a stacking up the bid amount. It has nothing to do with it. And you don't have to worry about opportunity costs when you wanted an SEUC because it takes account of it. It's minimizing the out bid production costs, the opportunity costs are part of the solution. And, yes, that's complicated and hard. It involves significant resources to run that and get results.

An example is the day where we were trying to rerun a hot day and put in all the bids and buried a couple things to see what would happen, we actually loaded in the outages for a different day. We couldn't even solve it. Because only with the outages on that particular day could we even solve the solution, could we even solve the power flow.

So I think that simulation is useful but only with a model that's related to how you're dispatching the system. Because otherwise you're just saying, yeah, in a parallel universe where we didn't have to deal with all of these problems, it would be cheaper. And I think that's my introductory comments.

MR. HEDERMAN: Thank you. Dick.

MR. O'NEILL: Since in the end we have to make use of these metrics, could each panelist chose their favorite metric and tell us when it goes haywire or how they would determine when it goes haywire and then tell us what we should do in response to it.

MR. ROSE: Any order or --

[Laughter.]

MR. O'NEILL: Go for it.

MR. ROSE: I'll start. I already gave mine.

MR. O'NEILL: Even though he killed off this side.

MR. ROSE: That's too hard of a question.

I think I already gave mine which was the Lerner Index. And I've tried to do comparisons across the four ISOs that now have, you know, pretty good market reports, state-of-the-market reports, whatever they call them, and it's very -- only two of them really do it, at least they're giving them publicly and I can't do the comparison even

among those two because their methods are different. And that's why I say, I think you need to probably stick your neck out a little bit of how you think that ought to be calculated. And I would favor more the benchmarking approach that Frank Wolack and his colleagues in California have done and others that have used a similar kind of analysis. I think that's probably an appropriate way to go.

And I think Professor Joskow chimed in on that as well, and I think that just seems to be the better way to go. And I would caution you against using that -- you know, I see it in the NOPR, I see it in here, the opportunity costs which is, you know, could be made to be very large.

Obviously as an economic concept it is useful, but we are talking about measuring market power here, so it's not a very helpful concept when we know that there are probably economic rents being collected in here and there may not be the entry that we would like in order to drive the rents down to zero like we would in a perfectly competitive market. So we have to be careful, I think, with that concept. I hear it thrown around a lot.

I do feel I have to defend my position a little bit on the graduate student having access to the data. I still think there's a way to be able to make it disaggregated enough where don't know exactly who we're talking about. But at the same time allow it to be useful

to somebody who wants -- an outside person to do the analysis.

I think there's two ways around it. One was already offered by Scott which is to say, sign an agreement that says, you won't disclose the information. And I've done that myself, very often, the FERC Form 1 information, for example, didn't have enough information so you get information directly from the company. You also find out sometimes that what the company files on the FERC Form 1 is not the same as what they give you which is interesting in itself. But a lot of people are finding out. That was a big eye opener for me about ten years ago. Another thing, it's not a really closely guarded secret right now that a lot of the information that used to be collected and available on FERC Form 1 and in some other places is no longer available.

So you really have to think about that, that kind of loss of information that we used to have about -- this used to be an industry that had a lot of information because it was regulated. And I understand we're not going to have this same kind. And, again, national security probably plays into that as well. But I think there has to be some way. And the agreement, I think, is one way to do that, or perhaps even the Commission can set up some way so that there's not too much control of the end product. Because

part of the problem with some kind of an agreement is that people want to see it. And I can understand why they would want to see the info to make sure again there's no disclosure, but they shouldn't have any say in about what kind of conclusions are reached in that analysis, et cetera.

Another solution to that is probably having somebody that's in oversight to the market monitor. Now, that may sound redundant, but there may be a third set of group or like I would say, like, I don't know, state regulators, who I work for, of course may form a regional body. Something along the RSACs that you proposed in NOPR, but rather than having just advisory roles, they have a little bit more than advisory or at least on market monitoring. They also have data access; maybe not as accessible as the same information that the market monitor has or the FERC has, but something again enough to be able to tell whether or not the information is valid and just provide an outside -- another perspective on validating the -- both the data and again the analysis. The analysis is what is really critical.

MR. O'NEILL: Are you going to pass on the rest of my question.

MR. ROSE: I forgot the rest of your question.

MR. O'NEILL: When that metric indicates something has gone wrong and what to do about it.

MR. ROSE: Well, on the Lerner Index there's just really no hard and fast rule, but when it gets big, let's say above a .2 or so, or above 20 percent, then obviously we have a problem. What to do about it is another --

MR. O'NEILL: That's something we have to worry about, you know.

MR. ROSE: Right. I think if you can calculate -- I'm sorry, but I was just going to say, if you can calculate, that's part of the reason why I think you need to look ahead a little bit. So if you can look ahead and be able to tell from the information like the supply and demand elasticities market concentrations that that Lerner Index calculation is probably going to start going haywire on you a year or two in advance, that will help, I think, to be able to do something about one of those things, the supply, the demand, you know, building transmission. Something will tell you in there and give you in advance. When it's already breaking and it's already happening, then you're in the California situation where you're basically just an observer watching a --

MR. O'NEILL: You want to do the Lerner Index through market simulation?

MR. ROSE: I think you can do that in addition to doing it for what it is at that time; you can do both.

MR. JOSKOW: With all due respect, I don't think

there's one index one should be looking at.

MR. O'NEILL: No, I said "favorite."

MR. ROSE: He said "favorite."

MR. JOSKOW: Well, you know, I think in the end if you're looking for indices of market performance it's going to be some kind of conversation benchmark analysis as the starting point to see if there are something deviations from competitive conditions. And significant may be plus or minus 15 or 20 percent. And these analyses should be done with sensitivity studies. I mean, different assumptions about exactly how operating reserves are handled, different assumptions about how hydro is dispatched or hydro is important and so on. And I think that's just the first step.

The next step is to try to understand why you're getting the deviations. It may be completely innocent. It may reflect some of the details of environmental constraints, congestion and so on. I think all of that can be taken into account. And then if you find that there are problems, behavioral problems withholding, I think that's where you then have to go to work and understand why the withholding behavior is taking place and try to provide remedies.

Since I think I'm the only currently serving academic on the panel, I would also like to say something

about the availability to the public.

Today in 2002, the public, the media, and the legislators don't trust the integrity of these markets. They don't trust the integrity of the people who are buyers and sellers in these markets. They don't trust the integrity of the regulators and the operators of the ISO. If you think that you can take the position that this is all very, very complicated, and we have to use very, very complicated models and detailed information to get the right answer, but we're not going to tell you what any of this is. I think you're living in a dream world.

I think the tests should be, is there a good reason not to make this data available to the public. And here it doesn't have to be in real time, it doesn't have to be that month. It could be a year later. But I think the burden of proof should be on anyone who does not want to make data available to the public. That's not just to graduate students, although I think graduate students and academics will make use of it given the time it takes to write their papers and thesis, I don't think it will have any commercial significance at all, but it also needs to be available to the press and to others to restore confidence in the market. I think there will be cases when you don't want to make data available to the public for commercial reasons or because it would facilitate collusion.

But other than those two reasons, I think the information should be available to the public because I think it's important that confidence be restored in these markets and in the process of restructuring and deregulation.

MR. O'NEILL: Can I refine my question a little bit? Instead of a very vague question about what we should do, how would it have applied to the California situation if we would have had it in place in 2000?

MR. JOSKOW: Well, I think it's an excellent example of the point I just made. If you looked at the California market you would have seen a number of things that were troublesome to start with. Number one, there was a fixed price for reselling electricity. Number two, the entities that had that obligation were not permitted to hedge their forward commitments, so you had a lot -- a lot in the spot market. Number three, there was no demand elasticity in the market and number four there had been substantial growth in demand, but no growth in supply. And during a period of time when imports were reduced it is not surprising that during high demand situations you created -- there were incentives for exercising market power, unilateral market power.

So, you know, if one had been looking at that market earlier on, you would have identified these as

problems and tried to have fixed them early on and going forward one would try to --

MR. O'NEILL: How would we have fixed them?

MR. JOSKOW: Well, I would have worked with the California Public Utilities Commission and the ISO to convince them that this was a bad policy to have these features.

MR. O'NEILL: We did.

MR. JOSKOW: I know. I'm not blaming anybody. And when the problems eventually emerged, you know, one had to reinforce that guidance. But I think the California situation was an accident waiting to happen. There is no question about it.

And, you know, if you look at New England during the same period which had done many of the same things, which also had a tight supply situation in 2000, they did not have the kinds of significant problems that they had in California. They had flexibility on the retail side, most of the commitments were forward-contracted even though the market itself was actually, from a structural perspective, probably somewhat more concentrated than the California market.

MR. O'NEILL: Does anyone else have a favorite that they would like to defend before --

MR. ROSE: Just if I could say a real quick thing

on the second question. Because somewhere, I don't know if it was in the NOPR or in the earlier papers, the options paper, or the other one. It was said by the staff of the Commission that the market monitor ought to serve as an early warning system. And I don't get a sense from these metrics much of that early warning. And so that you could see, I think, as Professor Joskow points out, you can see that some of these conditions where they in place in California that would have given you a little bit more warning. The problem with California was that it took so long to react because it was somewhat of a surprise both in it happening and the magnitude of it. So it took a very long time to be able -- in fact, by the time, probably the best things were in place, it was over. And it was basically starting to solve itself. And we need something, I think, a little bit ahead of the curve that could tell you in advance that something is going on.

And then some of the things that you're talking about in the mitigation part of the NOPR can start to kick in, you know, the different kinds of price caps, several of them are price caps and other mitigation methods could kick in.

MR. JOSKOW: I mean, I think you have Frank Wolack on the next panel. But, you know, they started raising flags almost immediately after April of 1998, during

the summer and, I mean, he can speak for himself, but my impression was the signal wasn't being received very, very well either at the state level or here. I think one of the changes that's taken place now is you now have an office that is focusing on market monitoring and market behavior.

And I think an important piece of this is for FERC to be able to interact in a direct way and a continuing way with the market monitors in the various areas so that you have a common understanding of what's going on and what's coming down the road and can work together to try to mitigate potential problems before they occur, ideally, and to respond to them after they occur. And I think that interaction is very, very important and it may include, you know, having FERC people move work out in the field in some of these areas along with the market monitors and the ITPs if that's the most constructive way of facilitating that kind of interaction.

MS. EATON: I want to respond to the discussion about a confidentiality when we sort of segue to that. But I wanted to sort of flip Dick's question and give my least favorite metric and why. And maybe then answer your other point about, so when do you see that it's broken and what do we do about it. That is kind of a very simplistic capacity-based application of the HHI index. You know, that's my absolute least favorite.

And although it's from our guidelines and you -- you know, John and I said, yeah, it's a good thing to look at, it is a guideline. And in this industry its guidance has more to do with the fact that you need to look at concentration measures and you need to look at them not simply on a one-to-one ratio basis, but in the manner in which HHIs can help you to diagnose difference in ability to apply market power. But in electricity markets everyone has said, and everyone will continue to say, that it is the type of capacity, it is the location of the capacity, it is the ability to ramp up and ramp down the capacity, it is the cost structure of the capacity, it is not the total amount of capacity that gives people ability to act strategically in these markets. And the traditional HHI index isn't meant to capture that.

There are ways that you can use the HHI to apply to, for example, a section of a supply curve if you feel the need to come up with those numbers. But you could do the same by looking at where the supply curve is and drawing a demand line on it and then seeing who is on which side of that demand line and who owns the plants there.

So I just want to point out that I was kind of -- I was surprised at the amount of discussion of HHIs in the paper because I think that FERC, like everyone else, in these markets has recognized that that's a fairly simplistic

way of looking at these markets and have gone beyond that.

And California, if we need to discuss that, is really a classic example of a situation where you could have looked at HHIs and not expected to have the kind of ability to raise price that resulted because it was measuring the wrong thing. It was an accurate measure of the wrong thing.

And so --

MR. ROSE: They should be falling in California

--

MS. EATON: That's correct. I mean, what you ended up with was a situation where you had more owners and more market power at the same time and that wouldn't have been ordinarily what would have been predicted.

MR. O'NEILL: I would argue, it's not necessarily the wrong thing, it just wasn't a complete set of measures.

MS. EATON: Well, I would agree with that. And once more it comes back to the fact that applying these metrics in these markets is very complicated. That's not an excuse because I want to, you know, hop back on the point that Scott made, which is, we have a tremendous amount of extremely detailed complex data across which to apply these metrics.

And once again, I'd say, you know, we're getting to a stage where once SMD is in place, we're going to be able to have accurate historical data in a retrievable and

analyzable form. And we will be increasingly able to do some kinds of predictive exercises that aren't based on the kind of modeling that we've had to do in the past which were more imagination than examination. But we have to have should market design in place for there to be that kind of data available. And then who is available too, that's what we're going to get to later.

MR. O'NEILL: Strong endorsement for standard market design, I think, right?

MS. EATON: As an enforcement person who has had to look at data to determine whether a transaction is going to change the ability of people to manipulate price, a standard market design lets me get there so much faster. It's not that you can't do the analysis outside of a market without standard market design, but you can do it in a relatively short period of time and the diagnosis is much quicker than it used to be or it remains in markets where there is no such design.

MR. HEDERMAN: Kristin, you were next.

MS. DOMANSKI: Thanks. Just in expanding on Jade's point about the market monitoring and data. I think one thing that might be important in light of the current environment where regulators don't trust marketers and vice versa and they both need each other, one could argue that regulators need the marketers more to secure future supply

and investment in regions that are deficient.

Perhaps having FERC as a main market monitor but have submonitoring groups to sort of watch the watchdog, so to speak, where you have a small group of monitors that all have access to data so there's not one monopolistic entity that has access to all the data and that is making decisions and projections and regulations based on that data. So working with perhaps private entities to act as sub-MMUs.

In terms of data, I think also one point that was mentioned about FERC maybe getting into the field than really understanding more, I think more of a dialogue with the suppliers and buyers in the market is absolutely essential to understand where they're coming from. Not that they're all bad in this, you know, all marketers are out to rape the market and gain illegal profits, that's not the way of moving forward; and to punish them is not the way of moving forward because we need to secure reserve margins looking ahead.

So, for instance, when looking at bid data and assessing an individual unit's bid, the monitor needs to understand where that bid comes from. And surely there are times where perhaps there is market manipulation at play or market power. But other times it's a function of individual capital costs which are not the same for every plant. O&M, emissions costs, input fuel costs, as I mentioned before and

if you have, let's say, a peaking unit that only has a small window of opportunity to make money to recover its costs during the year, there is every possibility that let's say there's ten hours of time that during those ten hours they're going to be bidding in what at first glance would be considered perhaps manipulated bids of something beyond the normal or average price levels.

So you need to, when you're looking at a data point, like a bid, you need to understand where that that's coming from by understanding to operator's point of view. And with that knowledge be able to assess when someone is trying to do something wrong.

And getting back to California and the gas prices, specific to California back at the time when gas bases started really blowing out in the late fall of 2000, when there is locational price movement that is far and away beyond any fluctuations in the hub price, a red flag should be raised. For instance, Henry Hub reached highs around \$10 per mmbtu in December 2000. Prices at the So-Cal Hub got as high as \$30. Now, right there is a red flag.

Now, in an instance where there's not a slight price strength due to maintenance season when baseload units come off line and a lot of gas fraud units have to pick up that slack, there may be incremental price strength or if it's a bad hydro year and regional units have to pick up the

slack, those the market can account for and you can easily look and see where that cause is coming from. Or if there is a sudden rally on Henry Hub due to external factors, due to the paper markets, due to the oil crisis, then you can relate it to Henry Hub. But absent those factors, if there's a basis blow out, there should be investigation of supply disruption or capacity withheld which just came out in example regard to El Paso in the California situation.

So I think if you keep track of locational prices and the level of basis -- the average basis during seasonal times of the year, whether it be maintenance or a bad hydro year and use that as a metric in seeing when you have to look at the gas market and how they can be manipulating prices at the hubs which translates directly into power prices.

And just one last comment on the California problem as well. There's every chance as we all know from information that's come forth from Perrot Systems that, you know, Enron and others had trading programs that were helping to manipulate the market and increase congestion and help along with their profits that I guess could have been avoided if trading really was understood. But I think in the pre-Enron world of pre-November 2001, I don't think people fully understood regulators and market observers alike how the power markets were really trading. And I

think now with market scrutiny and with people shoring up their balance sheets and getting away from wash trading, I think hopefully more clarity will come to the surface and the regulators will have an easier time understanding and identifying when someone may be perhaps exercising market power.

MR. HEDERMAN: John, you had something to say?

MR. HILKE: Yeah, just very briefly, sort of going back to Dick's original question. I think it's difficult to say that one measure above all others is important, so I won't do that. But I urge people to pay attention particularly to the transmission constraint information because it's important to figure out what area you're talking about. There's a real tendency in the NOPR, seemingly, to almost define markets in an administrative way as opposed to economically. And if you don't have the right area that you're talking about your statistics and your remedies and everything else are also going to be messed up. So it's important to look at what the constraints are in the transmission area as part of the process of figuring what is the geographic market that you're actually talking about at any particular point in time.

MR. JOSKOW: And just to emphasize, and it can change at different points in time. I think that's the important thing to recognize. I mean, New York City may be

constrained at some points and not at other points. And the nature of competitive interactions is going to differ depending on the constraints. And, you know, for a place like the New York ISO, you have a lot of information that you can use now to try to distinguish the kinds of supply and demand conditions under which the markets are separated and under which they're not.

MR. O'NEILL: Do you have any thoughts on remedies? You say "remedies" what would we do to remedy the situation?

MR. HILKE: Well, part of what the NOPR does and I think is very useful is to try to encourage OMP to be in place so that the investment signals arise in the right places. I don't think you're completely off the wall to suggest that sometimes appropriation is insufficient, private appropriation is insufficient and that you may need to do something to adjust what people get in return for making some investments which may be critical to the whole structure.

MR. JOSKOW: I think the SMD has a number of features in it that I really think get to this problem. The requirement to beat your capacity, if it's -- when it's available and if it's not available to document why it's not available. At least in the short-run price caps, and in the longer-run resource adequacy requirements. And I think over

time if we can migrate to an industry where suppliers make their money primarily by building and operating power plants cheaply and selling it under long-term contracts and not primarily from price spikes in the market, I think the job of the market monitor will gradually wither away and become much less important.

MR. HEDERMAN: On the point of documenting why capacity might not be available, in the last couple of days I've had discussions talking about the difficulty of verifying reasons. And one concept we were exploring is requiring the plant manager or perhaps somebody that he reports to, to verify when a -- if a monitor identifies an outage as having caused an adverse market effect, that then you would have a certification that there was some valid technical reason for why that happened. Do you think that would be helpful in this process?

MR. JOSKOW: I read that report. I think there needs to be two pieces to that. I think, you know, outages are -- there are mandatory outages, you've got to shut the plant down or derate it. There are some discretionary outages just like with your car, you've got an oil leak but you don't really have to take it in immediately. I think the plants ought to have a protocol for how they call outages, what kinds of considerations go into that.

I think there should be a requirement that the

internal auditor for the company audit the implementation of that protocol. And then a responsible corporate official should sign off on it that the protocol is in place, that it's been audited and it's being adhered to. I don't think that's a big deal. I don't think the CEO has to sign it.

But I think a responsible, you know, corporate official can verify that the protocol is in place and then you'll have an opportunity, you and the market monitors in seeing if the protocols are appropriate and especially under emergency conditions have the capability to tell suppliers that if they have discretionary outages that they should take them at some other time.

MR. ROSE: We have some of the audit functions in there where I think that's, just as a caution on that, that's extremely difficult. I think the California people who are going to speak later will verify that. That's very difficult to determine why a plant went down. You know, unless you can find a memo from the -- you know, somebody who is responsible for running the company to the chief engineer that says, 'please throw one monkey wrench into turbine, thank you very much' and signs it, it's going to be very difficult to be able to tell why a plant went down. And there's a lot of incentive to do that as we've learned.

And I don't know, I've talked to electrical engineers who know a lot more about this than I do and they

said they've visited plants in cases like that and cannot tell why a plant would go down. They basically have to take the word of the plant engineer and others that are there.

MR. HEDERMAN: As an electrical engineer I know it's hard to look at a piece of electrical equipment and know --

MR. ROSE: Right.

MR. HEDERMAN: But that's why we're trying to move it over to something that's tied to personal accountability for somebody who is a professional.

Jade.

MS. EATON: Well, I was just going to say that the audit procedure, before it's imposed, you should look at how much time and money it's going to take for every plant in the country to comply. But it does seem that it may be a one-time thing if there is a protocol that's viewed as a kind of best-practices protocol along the lines of what Paul was talking about that everyone does. Right now every plant has their own decision tree about whether to take something out. And if there was a standardized protocol, then people would document that and if they varied from it they would contemporaneously document why they were making the change.

Now, yes, people can falsify records, et cetera, et cetera, and it may difficult, but it does give us much more information about these things than exists now and in a

way that we don't have to rely on idiosyncratic reporting systems. And so it might not be that expensive to change it over on a one-time basis so that everybody is reporting the same information whenever they do a mechanical outage report and it just gets done and then it only is examined if we have to come back because of an anomaly.

MR. HEDERMAN: Thank you. Scott.

MR. HARVEY: I would like to -- as I understood your question, Dick, you said, what do we do when our criteria sees a problem. And if we look at withholding that means that we would see that we got capacity that's not being offered into the market at a location in which there's high prices and it's not providing regulation and it's not providing reserves, it's being economically withheld with the high bid, then the first thing the market monitor already does is look and say, well, is that because we do have high costs there, that today is the day where the interday gas price is high, that unit is switched to oil, there's a reason for the high price, and then we do have fall back mitigation of most of the high prices.

Now, in New York there's a philosophy of, we don't think we've got all those costs right, we know we don't know exactly what the marginal cost of the unit is, the unit owner was better, so there's a band. And if we found that everybody was consistently at the high end of the

band and it looked like there was market power being exercised, then you would say, well, one, do we have something that indicates that we ought to refer it to Jade that it looks like there's collusion. Or (b) is our analysis wrong and we've got a structural market power problem in which case we would have to lower the mitigation threshold for that owner. But you would be saying, it is that owner. You would have to point the finger at somebody.

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For outages I think it's relevant to the SMB and maybe not popular, but New York has a system for generator owners are expected to follow the dispatch instructions. We are very flexible, they can give us a new bid curve before the hour. They call in deratings when they have an outage, and they tell us about it. We always know what their capacity is and they're expected to follow their dispatch instructions. If they don't follow the dispatch instructions, they suffer consequences. And, therefore, there is no after-the-fact making up about whether or not there was an outage. We know, they told us.

Now, maybe if they're going to take a unit out and know in advance what's going to happen and blow it up, if you think that's what is going on, fine, then you would have to go and investigate.

But you shouldn't assume that all of the problem

is necessarily that the units are that we have fake outages. Part of it is units that break. And David Patton has shown that actually performance of units in New York appears to be better than it used to be. That when we have high prices on peak it actually motivates people to keep the units on, not to take them off. And it may be part of the problem in some places is we got two command in control and the operators didn't have the discretion to take the unit down to half power now in order to fix something, instead they felt they had to run it at full throttle until it broke. And then you've got a more serious problem.

So we ought to make sure we're really addressing a problem rather than just, you know, resorting to command and control by someone who doesn't actually know what's going on in the plant.

PARTICIPANT: Telling the difference is the problem.

MR. HARVEY: Right. But I mean, if we have, let's go back and look at it and see if there's a problem. If you feel the market isn't competitive, reiterate something I said six months ago, if we really think the market isn't competitive, then we ought to be breaking up and divesting some of that generation or doing something structural. Because why are we going through all of this process and trying to set up competitive markets if we are

going to try to micromanage the plants from the ISO. We're worse off if we do that than we were when the utilities were running it; a lot worse off. They didn't micromanage it from the New York power pool when plants took outages. They coordinated it, but the operators made judgment. And if we take that out, we can end up with a situation that's a lot worse. And there is somebody -- I'm not arguing that only the ISO should look at the data. Steve Balser can talk to you later about the relationship the New York ISO has with the New York PUC. But they are kept informed.

I know I've looked at the dispatch data coming out of the dispatch stock for the New York ISO to help answer their questions about, well, was there anything that actually wasn't being dispatched in economics in that interval. And we don't have to do a simulation model or anything like that. We can tell them the absolute correct answer. Which is a lot more helpful to the regulators than something that has nothing to do with what is going on.

MR. HEDERMAN: Yes, Jade.

MS. EATON: I want to just address the interrelationship between information because it's just come up again and the remedy question. And everybody knows that, you know, we have two worlds, worlds in which there is very imperfect information and information can be used strategically because there are big information imbalances.

And then there's the other end of the spectrum where everybody has perfect information and there are no problems.

The problems are in the interim where you are saying, we're going to reveal information, but we really don't have all the information and I am -- that's a period of time in which perhaps there can be exchanges and collusion of the extra piece that nobody else has.

But basically in this market, we're going to have so much information that the biggest problem I see with release of information is the fact that people cannot respond to the information because of the remedy problems. And here is what I mean by that.

I heard Steve say something that I am very sensitive -- excuse me, Scott say something that I'm very sensitive to which is, I don't want the generators to know if we're up against the point at which they're going to be the marginal supplier. And that kind of real time information, if the guy doesn't know it, you don't want him to know it. Because, as the ISO, Scott can't do anything about that. He just has to pray that the guy doesn't know he has market power. And under those circumstances I think people are very afraid that real-time information will get out to the competitive market.

If we were in a concentrated market where people were following each other's prices at the margin because

they could do something about it and the regulators couldn't, those are the situations in which people are very concerned about the public release of information. So I think release of historical information seems something that would be useful. But historical information I would say you may hope that the market participants don't know about the big problems that these data are going to reveal. But they do because they work in the markets every day and they know that three times a week you can't get through this interface. I mean, it doesn't have to be released to the public. They do it every day.

So I really want to point out that academics' access to this information at some point has to be accommodated. Even as a person who is extremely sensitive to release of competitive information this is an extremely difficult market to get your hands on. And we have benefitted so much in all of our enforcement efforts by the fact that in the past there has been a significant amount of information available to academics to analyze.

I happen to know a graduate student who wants to get a job at NRRI and I would love for him to be able to continue to have the kind of access to information that he had when he was helping us enforce things because he's smart and creative and he will give us, as a world, better tools.

MR. ROSE: He started yesterday, by the way.

[Laughter.]

PARTICIPANT: Is he interested in coming here?

We can give him better access to the data.

MS. EATON: Well, he's in Ohio now.

MR. ROSE: We saw him first.

[Laughter.]

MS. EATON: Yeah, he'll come back. But this is a really important thing. It's not just Carl. But if he didn't have the opportunity in working with us in enforcement to see what kind of data was available, he wouldn't be able to have conceived the issues that he's going to explore as a graduate student and help us all with.

And so we have to figure out a way to allow that. If we don't, then we had better get DOE to set up a lot of resources because that's one of the other places where there are resources available to do the kind of analysis that generally gets done in large universities. And I want to point out that it is expensive to do this kind of research because you have hard problems, you have huge amounts of data that have to be cleaned in ways I don't need to know about -- I'm so happy -- and it's very expensive to process because the algorithms are really complicated and so you need a lot of computing power. And I just think it would be much more efficient to let that be happening incrementally across the country than having to do it centrally in

government research.

So, if the risks from revealing information that is competitively sensitive diminishes as we have ability to address people who are using that information in strategic ways. And so just keep those balances between disclosure and effectiveness of remedy in mind when you're thinking about information publication.

MR. HARVEY: Just let me clarify, Jade, I didn't mean never make it public. I just want some delay and in particular we're not about unilateral market power, but where you've got three or four players and a couple of them start bidding it away that if the other two knew it, we would have a real problem. And I don't want that kind of signaling to happen in a market where there's a limited number of players, but if we keep -- it will work competitively.

MS. EATON: I agree with that. We have a lot of difficulty with oligopoly pricing in these markets. It's not unilateral market power a lot of the times. But if they had more perfect information about each others' bid strategies it would make things worse. My point is that I think they spend a lot of money hiring people like the graduate students who can turn to the good or to the dark side --

[Laughter.]

MS. EATON: -- to analyze the data that's available. Enron spent a lot of money on information because in the electricity industry information is what made the money, not generating assets. And that was just the truth.

MR. JOSKOW: I think everyone on this panel would agree that we shouldn't release information in real time if it's going to facilitate collusion. I think we can all agree on that.

MR. HEDERMAN: Bill, did you have a comment?  
Rob, go ahead.

MR. GRAMLICH: I was going to ask maybe the harder question about aggregation. I didn't hear much of a response to Scott Harvey's provocative point that the only way to do a real credible analysis of the important metrics that I think there's fairly broad consensus on which are withholding and competitive benchmark. The point is that if -- his point is you need basically the securities constrained actual dispatch model that is used in order to make a real credible statement about either of those two metrics.

Now, this raises a question. Actually I think the advice of FERC is fairly easy. We need SMD and good rules and need to do that analysis with the unfettered access data to data that we can get and that MMUs can get.

But the harder question, I guess, now, and this is maybe teed up from this panel to some other panels later is, what analysis should the public be able to do. If Scott's point is correct that the only way to do a real credible analysis is with this dispatch model and with the actual -- I mean, you have to know where the plants are in order to put it into that model. Then, you know, what Jade is saying and what I think sort of the antitrust advice here is that you don't want that information out there. So where does that lead you?

MR. JOSKOW: Let me say two things. First of all, I disagree with Scott and I'll give you an example of why. And second of all, I don't think anyone else said that, that the information shouldn't be out there. They said it shouldn't be out there in real-time.

I've had students who have looked at markets all over the world and most of the markets have much more information available than we do. They've looked at England using the kinds of techniques that Borenstein, Bushnell, and Wolack have used, that I have used, that Catherine Wolfram has used. In England we now have access to the actual dispatch model that they used because they don't use it anymore, so we can manipulate it. And you do pretty well, you don't get it perfectly, but the idea isn't to be perfect here. The idea is to look for significant deviations. And

I think that is the point.

The idea here is not that we're meeting some criminal criterion beyond a shadow of a doubt, it's the kind of information you need to a careful analysis of what's going on in the market. Now, of course, you can do a better analysis the more information that's available and I would welcome having that information available for others to look at.

But the notion that you can't do a good analysis without the actual dispatch model and every little piece of information, I just think it's not right. It's an effort to, in my mind, to keep others from doing the analysis with the data that are available. And if those data are necessary, again, subject to the caveat that you don't want to release is in real time or in the time period where you're going to facilitate collusion, then that should be made available to the public as well.

MS. EATON: I think this just really has to go back to the question that John raised which is implicit in all of this, but you have to go back to it. Measurement only matters not only how you measure, but it really has to go back to why you're measuring it. And the use of data for enforcement purposes is different than the use of data for a kind of general background information, analytics to give us an idea of how to look at markets.

Historical data can tell an academic really a lot of information that can be used to project how to look at data in the future and methods can be developed. And that's a different kind of purpose than enforcement.

But I would say that as an enforcement person, aggregated data is useless. Okay. But that's because of what I'm looking for. I'm looking for bad behavior, bad market structure because of specific assets. And because I'm looking for those specifics, aggregated data doesn't help me. But that's just because of the question I'm asking.

Aggregated data and historical data may be very helpful for answering other questions. And so you have to think about that when you are thinking about what kind of information can be released.

MR. ROSE: It's probably just a matter of the timing of the information, when it's released and when it's available. And the disaggregated data ought to be always available to the market monitor, but what is making me nervous is that over time you can release more of that information. And we always teach that monopolies are bad and probably having a monopoly in market monitoring is not a good idea either so that others can have accesses.

I used the example of the graduate student only because all of us that work at universities know that

graduate students are the ones who do all the work, or at least the data mining and that kind of thing. So they're the ones that have to be able to find this and ferret it out. They may get it. Maybe it is a year old. And it's not going to help much on that. But somebody has to be able to look back at that not only to tell what happened, but also to give us an idea of what we can do to make the markets work better.

In fact, that leads me to what might be my last point, which is to say, I hear people talking about the should market design and relying on that. I just caution you that the should market design is probably very unlikely to be perfect. I mean, you're talking about a very complicated set of rules here that are probably going to have some problems. You're going to have market monitoring for a very long time.

You should plan on having market monitoring for a long time. Both should be flexible and change if you go forward with this. And I don't see it withering away. I disagree with that comment. I think it's something that's going to be around for a very long time and will get better as we go along.

MR. JOSKOW: And I guess I would add that it's not just a question of identifying problems in particular markets. One of the things that's going to happen over time

is our analytical capabilities are going to improve.

MR. ROSE: Right.

MR. JOSKOW: One of the things that these hypothetical graduate students and others do is they develop new analytical techniques. Herfendahl and Hershman were people.

[Laughter.]

MR. JOSKOW: And it used to be that the census didn't the data in the sense of the manufacturing so you could calculate or an HHI. Similarly many of the techniques that are now used for doing competitive benchmark studies and for calculating Lerner Indices and for doing hydroscheduling, were analytical techniques that were developed and then applied in hypothetical cases and are now used routinely. So it's important that these capabilities be out there so our ability to understand these markets and to improve their performance increases as well. And we're not just monitoring them in a static sense, but over time their performances could be improving and our ability to track that performance could be improving as well.

MR. HEDERMAN: Well, thank you very much. I think your points about the need to help build confidence as we're building this monitoring capability is an important overall take away as well as all the rich detail you provided here today. I appreciate your spending the time

with us.

I guess the next panel can begin to come on up.

I hope you've prepared your answer to Dick's favorite question there.

## PANEL II MARKET MONITORING UNITS

MR. HEDERMAN: Okay. Let's get started, please.

Okay. We'll start with the next panel. Have a seat, David.

This next panel is a group of faces that is becoming very familiar to FERC and I'm sure FERC is becoming very familiar to them. These are our market monitors that are in place working at operating markets today. Thank you for joining us today. And I would appreciate it if you would each take a moment to introduce yourself and mention the markets that you are associated with in terms of monitoring activity and then we'll start in with some questions.

David, could you start at your end.

MR. PATTON: I'm David Patton, President of Potomac Economics. We serve as the independent market monitor for the midwest ISO and I am the market advisor for the New York and New England ISO.

MR. WOLAK: I'm Frank Wolak. I'm a professor of economics at Stanford University and Chairman of the Market Surveillance Committee for the California ISO.

MS. SHEFFRIN: I am Anjali Sheffrin. I'm director of market analysis and the monitor for the California ISO.

MR. ETHIER: Bob Ethier, manager of market monitor for ISO New England.

MR. BALSER: Steve Balser, manager of market monitoring and performance for the New York ISO.

MR. BOWRING: Joe Bowring, manager, market monitoring, PJM.

MR. HEDERMAN: Okay. Thank you.

I would be interested if each of you provides us with a report now on the state of the markets you're responsible for. If you could take a moment to give us a lesson learned I think that would be a helpful way for us to get started.

Joe, let's start at your end this time. You looked too relaxed there.

MR. BOWRING: Yes, here I was relaxing, I thought I was going to be last.

I would say one lesson learned and it was reiterated in a sense earlier this morning is that no matter how well we define the metrics, our predefined metrics are not going to catch everything. I mean, I think that goes without saying, but I think it's an important lesson.

On the other hand though, the metrics, at the

very least, if we continue to define them and continue to develop them, will always give us, at least, some indication. And hopefully they'll give us some notion of symptoms which can then lead to a more detailed analysis.

The final piece of that lesson learned, at least for us in PJM has been that -- and I've said this elsewhere, but it's critical to repeat that having access, daily, hourly, real-time access to the folks who run the markets is like having a whole set of metrics in your back pocket. Because they see when there are anomalies, they see things that our metrics might not catch, or might not show up for a day or two, and they see it in the real time and act as an early warning system.

MR. HEDERMAN: Steve.

MR. BALSER: I surely agree with Joe. And what I've seen is there's a need for constant vigilance. I think it's fine to have broad market indices and metrics and I think those are necessary. But from really the activity on a day-to-day basis unfolds and starts pointing in the direction of where the market is going long before broad market indices show the impact of it.

So we spend a lot of time looking at individual conduct and not just outcomes. Because things can -- conduct can change long before the impact hits the market.

And if you are looking at conduct -- and when I

say "conduct" I don't just mean generator conduct. I think a lot of emphasis has been put on generator conduct, but there is a whole nother range of conduct variables in different parties that can have a significant impact on the market. So, I think vigilance is very important. I think you must monitor the conduct in the market on a daily basis and I think you have to have the tools necessary to get the detailed picture of what is going on in the market. You'll talk about that a little bit later, but I think some discussion of that occurred during the first panel. And as we go on I'll talk more about that. But that's sort of another piece that if you don't have the detailed analytical capabilities for your market, I think you're at a serious disadvantage.

MR. ETHIER: Well, I guess I would start by saying that market monitors have access to more information than I could have imagined as a grad student. I mean, the amount of data we have access to is phenomenal. We can look at three-second-level data. But that begs the question of why would you ever want to do that?

So I think this exercise is useful to try to distill what we can do because there's a, you know, an infinite number of analysis that we could do, but what are the useful ones?

But what I would like to add to what are the

useful metrics is, we can't stop there. I am personally skeptical we are ever going to get to a report card level. An A is not an A. We all know in universities that's not really true anymore either. But an A is not an A across different ISOs. A \$40 price in one location may be dramatically different -- have different implications than a \$40 price in another location.

So you can't separate the metrics from the context and from the discussion. When I go and present to our stakeholders and so forth, I present a relatively complicated figure. I spend a little time explaining, here's what we calculated, but then I spend at least as much time explaining, you know, why that arose, or what's the context in which that happened and why it's okay or why maybe it's not okay.

So you need the context. And to reiterate something that was said earlier, the devil is really in the details here and these models we've gone through some exercises calculating really complicated market metrics where we have actually had benchmarks from other researchers to compare to and good faith efforts at identical analysis don't come out the same.

So we just need to be careful when we interpret these things and not say, well, this is "the" answer, because these are models, they're subject to variations in

data inputs, subject to variations in the model structure which reasonable people can, you know, disagree on what's the best one or they may agree they're both reasonable. But you get different inputs, you get different results.

So we have to be careful not to parse these things too carefully. They're all somewhat crude measures and we need to interpret them appropriately.

MR. HEDERMAN: Anjali.

MS. SHEFFRIN: I guess my experience comes from five long years at the California ISO of both being there when the market was working and seeing the crisis develop and finally seeing it calm down. I guess the biggest lessons that I would have to share is have an action plan in place. These markets are so dynamic the conditions can change dramatically. Hydro -- everyone discovered that hydro went away the summer of 2000 and that they were in a pivotal position. So have an action plan in place, an action plan was not in place in California not given by FERC. So that's very important.

Second is, mitigation has to be regionalized. It cannot be just for one part of the market. These markets -- and trades occur all over the place and so it's very easy to really bypass mitigation if it isn't for the entire region.

And third, how important it is to have competitive benchmark identified. We found that if we had

calculated those we would have had our early warning signal that things are going wrong in California and hopefully we would have had the Commission take a look at much more seriously that significant action needed to take place.

MR. HEDERMAN: Frank.

MR. WOLAK: I would just say they were calculated and we did. I mean, I guess that leads to my lesson is that the indices are not as important as what you do with them. And particular what I think is absolutely crucial and what would be very useful to have a very clear message from the Commission on is, what is the level of prices, for what period of time, for what level of geographic aggregation that essentially constitutes significant harm to consumers that is worthy then of intervention. Because as I will say for the many times is, every hour of every day firms exercise market power. That is their fiduciary responsibility to their shareholders to do it. The question is really whether or not this is harming consumers.

And I think that's really the direction that what I take from California is had there been in place a clear metric for what was the level of price, the period of time, and the level of geographic aggregation and then what intervention would take place if this sort of level was exceeded. I think that largely there would not have been a California crisis. The major problem was the fact that

there was none of that. And essentially it was, all bets are off and things could go on forever.

MR. HEDERMAN: David.

MR. PATTON: I think I'm going to address, as far as lessons learned, probably the biggest gap in what we've talked about today. And I find that this is -- this discussion falls into this problem too easily. And that is, focusing the market monitoring effort or assuming that it's going to be entirely focused on market power considerations. I think what I've learned in analyzing the northeast markets is that by far the most significant issues have been in the operation of the market and the subtleties of the market rules that are below your should market design level. And would note that there is no entity that has a bigger effect on prices than the operator of the market.

So it's important to add metrics and I'll suggest a few that would indicate when the operation of the market needs to be looked at. Metrics in the area of uplift, what's generating the uplift? And probably the most important metric in the area of out-of-merit generation. There are many operating practices related to maintaining the reliability of the system or actually running the energy markets that will result in resources being run out of merit order. That is, resources that are more expensive than the market clearing price being run which can have a huge impact

on energy prices and undermine the credibility of the market. It is a continuing issue, I think, in all of the markets that I've worked with.

So I think it's critical to make sure that the scope of market monitoring definitely includes that element.

Secondly, I would say probably the second lesson learned is the core of much of the market monitoring on the performance and market power side relates to the ability to measure and incorporate into analysis marginal costs. And one thing I think that we've learned is you've got to be extremely careful how you estimate marginal costs, what you include, what you don't include. Because if you don't do a good job of coming up with a reasonable benchmark that includes all elements of marginal costs, your benchmarking analysis, your withholding analysis and others can lead you to conclusions that are misleading with respect to whether you're seeing market power or not. And that's an area, frankly, that I think there's been a fair amount of innovation and we haven't gotten to the point where I would say I'm content that we have the answer at this point. I'll leave you with those two areas.

MR. HEDERMAN: Okay. Let me ask one other question before we go more broadly. The competitive benchmark point was made several times. Is that something that can be done without a massive analytical effort? I'd

be interested in comments on that.

MR. WOLAK: I'll certainly comment.

MR. HEDERMAN: Okay.

MR. WOLAK: I think there certainly is a wider array of methods that certainly I think the point raised in the previous panel of, you know, respecting the physical constraints of the network is certainly valuable and certainly something that could be built in.

In terms of saying, is it massive, I think it's well within the capabilities that most of the -- you know, all the existing market monitoring units. So, I guess what I would say is, it is, from the start, massive, but given the start-up costs that everybody has incurred to actually do these sorts of analyses, but the need to keep their market monitoring function going, I think it's the sort of thing that the incremental cost is pretty low.

And, then, moreover, I think in particular I don't think it's very difficult to essentially rerun, you know, with the sort of security constraint dispatch to compute the competitive benchmarks.

On the places that I've attempted to do that, I mean, it doesn't matter, but if it makes people happier, then I'm certainly willing to do it. I mean, you get slightly different answers, but, you know, the sort of -- as Paul Joskow said, to the extent that what we're interested

in getting out fairly sort of more simplified methods get you pretty much the kind of qualitative answer that you would like to see. I mean, you can refine it down, but it's just not going to change much.

MR. HEDERMAN: Anjali.

MS. SHEFFRIN: I guess I would also add, the competitive benchmark that we're talking about is a long-run index. So you're not looking at hour-to-hour changes. You're looking at month-to-month and over a 12-month period of prices above what a competitive market would produce. So, we calculate them hour-by-hour, but we rolled them up. So spikes in any one hour or any mistakes for calculating that in several hours is not going to make a big difference in the result. The trend is still going to be the same.

MR. HEDERMAN: Thank you. Bob.

MR. ETHIER: I would as an ISO that just went through the process of implementing the competitive benchmark analysis, it is certainly doable. It takes a reasonable level of effort and knowledge about the industry, but it is certainly something that, you know, just thinking outside of the ISO that any number of consulting firms could perform for you. It takes some data manipulation skills, it takes some software coding skills, but datawise most of what you need to do, at least sort of a certain level analysis, is really readily available as long as you don't try to

parse those results, you know, too finely.

I do think there are some enhancements that can be done internal to an ISO that I think are useful. And there are some confidentiality issues that are going to prevent that from happening probably on a more widespread scale, but I think we can add value by doing it internally and it can be, you know, replicated or checked externally.

MR. HEDERMAN: Steve.

MR. BALSER: I think there is really maybe two levels of benchmarking and they serve somewhat different purposes. I think there is a long-term benchmarking which probably addresses more the long-term structure of the market, and maybe the market rules. But I also think there's a need for very short-term benchmarking and one that is very specific to the conditions that exist on the day you want to do the benchmarking. In fact, there is a whole mitigation process which relies on that benchmarking, the conduct impact type of mitigation that New York employs.

The impact is really based on the fact that you can measure a competitive outcome against what you see in the actual market. And to do that and to do it right, and really for the reasons that Scott Harvey mentioned, the complexity of the commitment process and the following dispatch process, to do that type of benchmarking you do need to have a complete and accurate replication of the

market itself.

In New York we spent a lot of time and effort to ensure that the market monitoring unit has an exact current production version of the security constraint unit commitment that determines the day-ahead prices. And we're also working to ensure that as we go forward we have similar exact replication of the market for the real time.

To do that meaningfully, you, of course, go back to the data that's required for a benchmark. And David Patton talked about the need to have a good set of reference behavior, reference conduct from which to measure a competitive outcome.

So you kind of really need those two pieces, you need for the short-term benchmarking which from a market monitoring standpoint is kind of the day-to-day vigilance that I spoke about earlier, the need for that vigilance. And the need to maintain people who are trained in how to run that commitment process. It's not easy. It does take some sophisticated knowledge of the software. And also, a good set of -- in the case of conduct benchmarking, a good set of reference bids or reference offers which you can measure a competitive outcome against non-competitive outcome.

So those two pieces, I think, are very important and they do take effort. They take resources to both

maintain the models and also to maintain the reference points that go into it.

I think the current data, the current bids or offers, and the current system conditions are a natural data flow within any well-functioning ISO. So I don't think there's a lot of extra effort required from the market monitoring group for that particular piece of it. But I think the effort and the resources really are to make sure that the models are kept current, that the people are trained in how to use those models, and also the reference against which you measure conduct in order to determine whether or not a certain outcome is a competitive outcome or not.

MR. HEDERMAN: Joe.

MR. BOWRING: Just real briefly. I agree with the essence of that which is that it's fairly straightforward at least analytically although time consuming and resource consuming to do the analysis using the internal models. That's really, I think, the best way to do it. You capture all -- as Steve just said, you capture all the actual constraints on units, you capture the physical constraints of the system. And then, as Steve also pointed out, really the question then becomes if you were, for example, comparing what actually happened to a reference case where you're using a measure of competitive price

perhaps based on marginal cost and the question is, where does that marginal cost information come from.

We have marginal cost information directly from generators which is a step in that direction. That's not the final word, but it certainly is a significant piece of it.

So to answer the question, that sort of competitive benchmark, I think, makes sense and it's one piece of the piece of the puzzle, one thing to look at. And market monitors and ISOs have access to those models and it makes sense to do it.

MR. HEDERMAN: David.

MR. PATTON: Yes, I actually think that it would make sense to encourage the market monitoring units to have the actual models that they can run, not just to do the benchmarking analysis, but also for -- it's very useful for other purposes. For example, if you -- if you're able to determine that a transmission facility was derated or taken out strategically, you can precisely measure what the impact of that is on congestion and payments to transmission rights and power prices if you have that modeling capability handy. So I think that's a useful capability.

With regard to the benchmarking analysis, I guess I would fall in the camp of, it's better to reflect the complexities because unless you're going to be very clear

that when you report your mark up that it's not really a measurement of market power, it's a measurement of market power and a number of other factors that are not captured in the analysis.

Where I think it's probably most important to capture the complexities is as you get closer to the shortage conditions. I think doing a benchmarking analysis when you're away from the peak you'll get relatively reasonable results. What you tend to see though in a lot of the benchmarking analysis is that the mark up is highly concentrated under the highest demand periods. And the interesting thing is when you compare the benchmarking analysis to output gap and withholding analysis is that it's where my concerns would come in on measuring marginal costs is at the peak because if there is a segment of the market where marginal costs vastly exceed variable costs which is generally the assumption on what a generator's marginal cost is, it's when you have to dispatch those resources that your benchmarking analysis is going to tell you, you have huge mark up.

Secondly, the things like ramp constraints and commitment, unit commitment considerations become much more important when you get close to the peak because the prices are extremely sensitive to the capacity that's available to the markets. So if you have 300 megawatts that's not

available to the market because it's ramp constrained, that will make a big impact on price, so that's one area where having the actual data is going to give you a significant advantage.

And lastly, I think the interesting point in comparing the output gap and withholding analyses to the benchmarking analyses is we've gotten exactly the opposite results from those two analyses. The point of the output gap and looking at deratings and looking at how they vary as you move toward shortage conditions is the reason you look at that is because of the incentive to withhold changes drastically as you move close to shortage where the ability of other suppliers to respond to withholding diminishes and your potential impact on price increases. And in workable competition you would expect that people would make as much of their supply available as possible to try to make sure they sell as much at the highest prices if they don't believe they can impact price.

That's also where you would see withholding increase if you have a market power problem. And what we have seen is that at least in the northeast, every measure of withholding is minimized when you get into shortage conditions where the mark up is the highest at that point. And so I think it emphasizes the difference in those two approaches to tracking patterns.

MR. WOLAK: There should be no inverse relationship. It's not very costly for me to exercise market power when you need all my capacity. I just bid it really high. So there's certainly nothing inconsistent with those two measures being, you know, what David reported. I mean, in fact, that's exactly what we find in California as well is certainly at the high-priced periods the generators will -- don't have to withhold very much at all, if at all, to drive a price up.

The other is just as well. I would definitely concur with the point that at peak periods that it is a problem. But the one thing that I think is certainly and that's, I think, a very useful metric as well on the competitive benchmark is to measure the extent to which what you're picking up is primarily in a few periods. And I think that to the extent that you're picking up most of the "market power" in the say "off-peak" periods or not as much in the peak periods, that really is an indication that things are going wrong. And that's precisely what happened in California.

So I think in that sense that's an important dimension to certainly report rather than just simply the raw number. It is really, when does it happen.

MR. O'NEILL: Frank, you calculated Lerner Indexes for California for what, '98, '99, 2000?

MR. WOLAK: Yeah. I mean, I'd like to sort of make a -- on that just to sort of say the Lerner Index, I think, we got to define what we mean. Like, for example, if it's on an hourly basis, that's fine versus the measures that we've actually presented are things where you take the average, if you like, of price minus marginal costs summed up over some period divided by the average of -- so think of it as quantity weighted over some horizon. So as long as we say, okay, hourly versus quantity weighted over horizon, that will give you a very different number.

MR. O'NEILL: And what were those numbers?

MR. WOLAK: I would argue that you rarely, if ever want to look at the hourly level for the simple reason that I think that's when all the ramping constraints can really reek havoc with what that number really means, whereas certainly over a long horizon you certainly --

MR. O'NEILL: What did you get? What were the numbers?

MR. WOLAK: You can read the paper, they got it reported on every month, every hour. I mean, what do you want?

MR. O'NEILL: What were the numbers?

MR. WOLAK: I can tell you for calendar year 1999 the average difference between the competitive price, a benchmark price, and the actual price was on the order of

about \$4 per megawatt hour versus the average --

MR. O'NEILL: And in percentage terms?

MR. WOLAK: Divide that by 32, if you want. And then if you --

MR. O'NEILL: That's not 20 percent, right?

MR. WOLAK: No. But I personally don't think percentages are what you really want. I think absolute levels is really the difference I think is more important for the simple reason that the denominator matters and that people pay the difference, they don't pay a percentage. And so to take the number for 2000, that average difference between the competitive benchmark price and the actual price was on the order of about \$45 per megawatt hour.

MR. O'NEILL: In percentage terms?

MR. WOLAK: About 50 percent.

MR. O'NEILL: Fifty?

MR. WOLAK: Yes. So, I mean, think of it as if the average price was about 100 bucks, \$110 then you get -- well --

MR. O'NEILL: That was in what year?

MR. WOLAK: 2000. But as I say, people pay the difference. The percentage is sort of, in some sense --

MR. O'NEILL: So you just want us to look at the price, or what? I mean, how do you do it? Because the Lerner Index doesn't have units, so --

MR. WOLAK: As I said, I mean, I don't know if you've seen the thing -- the report that was filed, but basically saying it's the difference that's relevant. And it's the difference that then triggers the intervention.

So in other words, you set a level at which the difference between -- so like the example that I give is over the 12-month period if you've computed the average benchmark pays rolling average over 12-month rolling averages, you've computed the actual price rolling averages over 12 months. To the extent that those two deviate by, say, some amount, you pick it, the numbers that I would certainly say is if you picked a number that was about \$5, the only time that you would ever do that in any of the markets that we've analyzed, we looked at -- this is Jim Bushnell and myself as well as others have looked at, you wouldn't have triggered any intervention in New England or PJM or in California until essentially July of 2000.

So, in some sense, that sort of level of difference, I think is -- I guess what I'm arguing is the -- it fits the definition of geographic location, duration of time, and magnitude that constitute significant harm that is worthy of intervention. But not to the extent that you don't like --

MR. O'NEILL: Do you do the intervention going forward, or do you intervene and penalize people for what

they did in the past?

MR. WOLAK: I prefer very much going forward.

MR. O'NEILL: So you leave the past market power problems alone?

MR. WOLAK: Well, I mean, I guess, you know, given -- once again, going forward right now I think that would certainly be my recommendation because I think certainly the experience of the past few years in California is illustrative of the difficulty of going back. So, I mean, my view is that you have to make both outcomes sufficiently unattractive to both sides of the market so that both sides have an incentive to work to make the market work better to implement the necessary market rule change necessary to correct --

MR. O'NEILL: Both outcomes meaning?

MR. WOLAK: Excuse me?

MR. O'NEILL: Both outcomes meaning?

MR. WOLAK: The outcomes in terms of -- that's why, as I say, if you say the deviation between the competitive benchmark and the actual price, if you think of it as you set that sufficiently high, that means load experiences something pain before the intervention occurs, so they have an incentive to work to make it happen. Generation, you know, true, if they trigger it. Then effectively what happens is intervention will occur to them

which is an outcome that --

MR. O'NEILL: Intervention is very harsh.

MR. WOLAK: Yes.

MS. FERNANDEZ: Actually, could I sort of do a follow-up question on that? Because I think in listening to the panelists I think from the California perspective, if you did a competitive benchmark test, that you would have found that it flunked and that you would have -- and you also would have found that it flunked in a number of off-peak hours. Does that --

MR. WOLAK: Well, think of it as just a -- think of the way the number works if you're taking the difference between 8760 which is a whole year, the difference between P benchmark and P actual. And so to go to the point that David was saying is, he's saying and certainly it's true in like a market like PJM or in New England, more so in PJM, Joe, I'm sure can comment more on this, but he's made presentations to this extent, so I'll take him on his presentation. But most of the big number difference between say P actual and P benchmark is coming in just a few hours and very large differences in the prices times the large quantities. So that's if you like the total amount of overpayments, say.

But in California what happened was is that that difference -- you were picking up a whole lot of just very

small -- not very small, but something  $P$  actuals minus  $P$  benchmark in many hours. So in other words, it was -- particularly in 2000 it was virtually every hour that you were getting fairly significant numbers in terms of that difference. And that is, I guess, would say there it's much harder to make the argument to say, well, it's things like ramping constraints, it's things like those sorts of things, because ramping constraints are dynamic constraints that you would expect to say, okay, we're going to probably miss it so we're incorrect and we're picking it up in this peak hour. But if it's in hours in which there aren't any ramping constraints, then it's sort of -- it's a harder case to make. And that's the point.

MS. FERNANDEZ: Well, what I was sort of thinking is that -- I mean, from some of the studies that have been done in the east, it seemed like if you did a competitive benchmark analysis, the market sort of passed. But if you looked -- well, I think if you set the should that you were proposing for California that the markets in the East would have passed. However, if you look very closely at some of the behavior you would have seen other problems that the market monitors pointed out that they still wanted to take some actions to correct.

And so I was sort of wondering in terms of some of the discussion on the competitive benchmark if it's

something that having a competitive benchmark test might be a good idea or a necessary idea, but there are other tests that you need to do in order to pick up -- you don't want to focus exclusively on that.

MR. WOLAK: Yes, I mean, I think what Paul said earlier is really true. Is that you could kind of think of this as sort of saying is the market really healthy, but, you know, you could -- the other way we see it would be is, are there little things that are wrong with my health and things that I need to correct and things like that. And so, certainly -- I mean, I'm viewing that as more of the competitive benchmark is like the guiderails for the conversation market and sort of saying, we are precommitting to make sure that, you know, another California crisis does not occur. I mean, that's kind of where I'm at on the competitive benchmark.

Whereas, I think the things that speakers on both sides of me said I think are very important, of you really want to look at the day-to-day operations of okay, what are these -- what are generators doing during these certain circumstances. What sorts of market rules are setting up perverse incentives for behavior? How might we want to fix them? And I guess -- but I think the other side of the competitive benchmark analysis that is useful to say as well is that to the extent that those market rules are allowing

-- allowing lots of, if you like, consumer harm to accumulate, the good news is, is that with this sort of measure in place, both sides of the market have strong incentives.

Certainly the consumer side has a strong incentive to get it to work because they're hemorrhaging and they're paying. The generation side is sort of saying, we probably want to fix this because if we don't the trigger might get hit and mitigation of a more Draconian nature will occur. So both sides are sort of recognizing that it's necessary to work to that solution. So I think it compliments is what I'm saying. But it certainly doesn't say that you can completely get rid of the entire -- you don't want to look at other stuff.

MR. HEDERMAN: Steve and then Bob.

MR. BALSER: I think it's when you talk about competitive benchmarking we sort of focus on an outcome benchmark. That is, what's the resulting prices that have emerged? But I think competitive benchmarking has value also in looking at conduct. And I think, Alice, you were starting to talk a little bit about that. And it goes back to what I said in the introductory comments and that is sometimes focusing on conduct even before there's an outcome gives you a sort of a vision of the future, if you will, if this type of conduct were to continue. So we've

established, if you want to call them competitive benchmarks, not only for outcome, but also for conduct and we monitor both of those on a continuous basis. And I think if you're -- it's important to get ahead of the curve when there's problems. And the problems that emerge in markets are different.

I think in the Northeast most of the time they come and go and there are opportunistic intervals where people can exercise market power. They aren't constant. The vast majority of the time the markets are operating competitively. But if you miss those short windows when things are non-competitive, then people can be acting, they could have a behavior pattern which will suddenly emerged, who can be ongoing but has no particular outcome until a very specific set of conditions take place. Congestion is obviously the most prevalent one.

So what you need to do is if you're going to benchmark, you need to benchmark conduct as well as benchmark outcomes. And you need to use both of those as your tool for not only correcting a deficiency that emerges out of the market prices, but also try to capture a conduct which is going to lead to that negative outcome. An important function of a market monitoring group is to recognize this conduct and address it with the particular market participant that's exercising it.

It has been our experience that what you could, in a vacuum, sort of call noncompetitive conduct may indeed have a very rational reason behind it. And simply talking to a market participant before it ever has an impact on the market and explain to them that this is to be viewed as noncompetitive conduct they'll oftentimes voluntarily change it and stop the particular conduct. And therefore you stop the impact before it's ever happened. So it's important to maintain that vigilance on the conduct piece.

MR. MERONEY: Excuse me, Steve, if it was perfectly rational but they changed it is it -- I was trying to put those two together.

MR. BALSER: Well, they may have alternative ways of accomplishing the same goal.

MR. MERONEY: So basically it's reasonable but they accommodate your purpose?

MR. BALSER: Often there are multiple ways of achieving the same ends. And they may not even know that we view it as noncompetitive. And it's been our experience, as I say, that quite often they will voluntarily change the conduct.

And I might also in the discussion with them point to a deficiency in the market. If it's a revenue adequacy issue, for instance, there may be deficiencies in the way that in the case of a generator they can produce

revenues. One simple area to look at is a capacity market versus an energy market.

If you don't have a capacity market then you have to look at the energy market to recover your fixed costs. And that will then dictate how you bid into the energy market itself.

So those are the kinds of issues that you discuss with them. And not only do you have the opportunity of preventing an impact on the market, but you also might uncover some deficiencies in the way that your market is structured and correct them before there's a serious, serious impact.

MR. O'NEILL: Could I ask a question of Steve.

MR. BALSER: Sure.

MR. O'NEILL: You said that if you have a capacity market or you don't have a capacity market, change the way you bid into the spotlight. How does it change it?

MR. BALSER: Well, what I'm saying is some people will -- if a unit is a peaking unit, for instance, and it only runs a very short period of time, then how do they cover their full revenues? And I'm not a generator and I'm not going to justify what their particular bidding practices are, but this is oftentimes cited as a need to have extraordinary profits during times of shortages and they do well.

MR. O'NEILL: But should they be able to bid above their marginal opportunities?

MR. BALSER: Well, that's the whole question, I think, that needs to be addressed.

MR. PATTON: You shouldn't design a market that requires generators to raise their bids to reflect shortage conditions. I mean, that's part of the problem in some of these markets.

MR. ETHIER: Trying to get back to Alice's question. My recollection of it was, it sounds like benchmarking is useful, but is it the tool or is it just a part of your portfolio? And my feeling is very strongly that it's just a part of a portfolio and it's probably not even the one I would put in the first slot.

As I mentioned earlier, we just implemented it so therefore I obviously find it useful because we expended some resources to develop it, but in the process of doing it, we recognized that it does have shortcomings. And they're fairly predictable. Data differences make a huge difference. And we used purchase data from a data vendor. The study we were replicating or attempting to replicate used EIA data. They were dramatically different for every fuel type. Differences as much as 40 percent. That's huge. So, you know, it strikes me that benchmarking is maybe a little more susceptible to these sorts of problems because

you are building a more complex model.

If you compare it with something like output gap analysis which is a little less dependent upon data inputs, that's likely to be a little less susceptible to sort of variations among modelers. So, you know, I guess that's just a caution about, you know, the more complex the model, the more, you know, scope, I think, for reasonable differences and outcomes and potentially differences that would affect your view of the market.

But also, you know, I have said it's useful, but there's a whole portfolio of things that are useful and I hope that at some point we sort of move to some of the other things in the portfolio that are going to be useful for monitoring the markets that I think supplement competitive benchmark analysis and, you know, provide looks from different angles, if you will, of what's going on in the markets.

MR. HEDERMAN: Okay. On that point I think we'll take a couple more comments here. People are --

MR. WOLAK: Can I just follow up on something that Steve said?

MR. HEDERMAN: Yes.

MR. WOLAK: I mean, that I think is an important point that is another area that I think would be very useful to get the Commission sort of clarification on is -- I mean,

from my perspective, I think we have to ask the question that I think Bill raised which is, why is this conduct occurring? This conduct must be occurring because of the incentives that the agent faces. And so I guess my argument would be, don't mitigate the conduct, essentially change the incentives that the agent faces. And to give a more concrete example of this is that if we say, every single time there is a transmission outage on this interface, you have the ability to spike the price.

That to me presents the very thorny following issue: if I then say to you, but, when every time there is a transmission outage on this interface, you have the ability to spike the price and I'm going to essentially mitigate your bid during those circumstances then I as a generator am going to sit there and say, well, gee, every single time that this happens they mitigate my bid, I don't get any upside from really being around there to serve load when this sort of event occurs, so I won't.

And so you then have, if you like, a more unreliable network as a result. So I guess what I'm trying to say is that in some sense we -- what I'm trying to argue is that we have to give some opportunity for the upside so that people will hang around. The question is, how large is that upside? And I think that's an issue as to why I guess my favorite is very much, let's change the incentives, let's

not mitigate the conduct because the incentive still exists.

MR. HEDERMAN: Anajli.

MS. SHEFFRIN: The only thing that I would add to Bob's comments, because I do agree, that a competitive benchmark isn't the only tool. But I have to tell you every month I look at my markets performance and I ask myself, can I explain the prices of the market with fundamentals and if not, then what else do I need to look to. And that's my first chart that I look at is, could the prices be explained by increases in fundamental -- fundamentals like costs, hydro conditions, all of those. And if I can't, then I have to drill down further. So for me it's a very useful tool. It's one of the first tools that I use in the toolbox.

MR. HEDERMAN: That was a good segue to what I would like to return us to before we are too short on time. You are a key group of people with the practical experience of devising and using the metrics. And I would really like to give you an opportunity to speak to the discussion of the metrics and the staff paper. And perhaps you could start with that Anjali.

MS. SHEFFRIN: Sure. I thought that it was a long list of metrics. I think I would like to sort of add to what Jade said on the previous panel, too much time was devoted to the HHI. That's an outmoded index for this industry. HHI didn't give us any indication that there was

a problem in California because it just looked at concentration of suppliers in electricity. It's the interaction of where demand is with supply. And so you have to go to a pivotal analysis and we, as a department, have suggested one to the Commission called the "residual supply index." You, yourself have come up with something called the "SMA screen." I think both can be made fairly comparable with a little bit of changes. But, again, it really is, you know, with the number of suppliers no change in concentration you can have an ability for any supplier to spike the price or no ability, just by where the level of demand is. So that has to enter into the equation.

MR. HEDERMAN: Okay. Obviously, let's head in your direction.

MR. ETHIER: Well, I would like to second Anjali's comment about HHI. I don't think I've seen any of us give presentations of where HHI was included. And I think we all do it without prefacing it by saying, this is not really a good measure, but I'm giving it to you anyway. So, you know, maybe one of the best functions that this group could serve would be to, you know, if we could get that off the table for fall of us to not be forced to calculate it anymore.

But, I guess I thought the paper was fairly complete. I would like to second David's comments about

operational metrics. That was -- when I thought I was going to say three opening comments, that was one of my three, which was, it's important to look at the operation of the system and most importantly focus on things that influence the market price but are not -- are directly revealed by the market price. And that would be out-of-merit generation, self-scheduling, transmission constraints under L&P will be; in our current markets they're not. So that's sort of an issue under the current New England market sign. But I do think these operational things are key, both because they help all of us understand what's going on, but also -- and this is a real issue in New England, and really it's been our stakeholders that have been driving this, they want greater transparency on what we do. And, you know, being sensitive to Scott's comments earlier, I agree that we have to be -- you know, you have to be cautious or at the very least careful about what operational data you put out there. But, you know, folks on all sides of our markets have tremendous investments to expect them to just sort of trust the ISO is something that doesn't seem to have worked very well.

I think it's incumbent upon us to be as transparent as possible so people can really understand what's driving it and really understand how the system works, and that has positive feedback effects. If you show

a TO that there's a lot of uplifting generated by this one particular problem and you need to run this unit for our support, that's how the -- that's one way in which the signal gets back to the TO to upgrade his transmission system.

So I think there are some really important uses of these operational metrics and they can really help us. But, you know, basically, I think -- especially as a first cut, the paper did cover the right basis. The one sort of caution I would like to put in there is, you know, let's make sure that however this sort of request that we calculate these metrics comes down that it allows flexibility and evolution.

You know, it would be unfortunate if we got into a position where, gee, today this metric looks really good and in ten years we're calculating the same metric just because we sort of -- it's there. You know, it would be nice if it could be sort of this organic evolution because, at least my feeling is, we're still pretty early in the stages of developing good metrics and I hope to make a lot of progress in going forward.

MR. HEDERMAN: On that point I would just like to clarify. Our intent here as we develop a best practices list is not to eliminate your other ideas. And that's our hope too, that it will evolve over time and get better.

Steve.

MR. BALSER: In looking through the paper, actually, I read like the first page and I said, well, let me -- you talked about what would you as a market monitor list as the metrics. And so I put the paper aside for a minute and I started with that and wrote down, at least, in broad categories different things that I would be interested in. And I do monitor. And then go back and compare that with what you have in your paper. And fundamentally I think they covered the same ground with some slight rearrangement of sort of categories. I like to view what I call outcomes, market outcomes. And these are things like prices, and revenue flow.

We actually look at participant revenue flow to try to understand the interaction between the markets, conduct that you notice in one market, if you just look at it in isolation, doesn't necessarily make a lot of sense. But if you start looking at the whole flow of revenue for different categories of participants and the participants as individuals you start understanding better sort of what motivates them and what drives them.

And sometimes you start picking up interactions between the markets that if they aren't structured right, if a market grows in isolation with other markets that have impacts, you start to see unintended consequences between

markets. And so it's kind of a follow-the-money principle and take a look at where are people making money and in what markets are they successful. And we have virtual trading, for instance, in our market and we find it very useful when we do our virtual trading analysis to look at the TCC market. Because virtual trading can have an influence on TCCs and the revenue generated and you can lose money in one market and make money in another market and then it's useful to understand that these markets are related to each other. That's kind of an obvious case, but there are some more subtle ones.

Another important -- another factor at looking at outcomes that hasn't been mentioned too much. I don't know if it's been mentioned at all, and that is, what's the outcome at the interfaces? There is always going to be a seam unless you completely capture all of North and South America. I suspect there must be an interconnection just about all the way through. So there is going to be a seam somewhere. And I think it's useful to look at the seams, the utilization of the seams, the interfaces. I think resolving the differences across seams is a very important function, one that we are in particular putting a lot of effort in right now. And I think it goes a long way towards achieving the goals of uniform markets. So I think it's important to also look in terms of outcomes, the outcomes

across the seams, not just the outcome within -- within a particular control area, but also what's happening with the neighbors and do these two make sense -- these two outcomes make sense with respect to each other.

The next category I called "conduct." And that has to do -- we talked a fair amount about that. I find it useful as a premonition of the future where are things going to head if this conduct continues? Often it starts before the impact occurs. And I think conduct -- and I mentioned this before, I would like to mention it again -- that conduct is something that you don't just focus on generators. And David, and I think Frank, made the point and Anjali that the way you operate the power system has an impact. The way transmission facilities are operated are very important to the way markets behave. Even the way LSEs bid in to the market, especially when you have a co-optimized market and you have ancillary services and need to supply those, and then you have markets that are a day ahead in real time, the interaction of these markets, I think it's important to look at all the participants and not just focus on the generators.

So we try to look not only at our generators, but also at our other market participants.

The third category that I had identified is what I called structure. And I took a very broad view of

structure. We talk often of sort of the market structure itself and whether you use HHI, which we don't, by the way, or some other market structure assessment. I think that's an important component. That will probably give you some idea of whether or not you're grossly competitive or not.

But, also, in terms of structure, I lump in that the power system structure itself because I think the structure of the power system ultimately has a big impact on where prices go. And that also should be sending the signals for changing the structure, and in most cases that can be identified as transmission additions.

So I think it's necessary to look at structure, in not only the market, but also the physical plant that exists in terms of transmission.

And the third one was what I called operations and that's market as well as the physical operation of the power system. Again, we've talked about that and that somewhat interfaces with conduct. But you need to look at the way the market operates, but also the way the physical system is operating because you may have operational rules which are being followed precisely, but which can have negative impact on -- are an undesirable impact or unintended impact on the market. Because, let's face it, all these problems -- the vast majority of these power systems were designed around a regulatory environment and

the particular driving forces for that regulatory environment are different now.

Competition has put a different -- has overlaid a whole level of operational issues. And I think it's important to recognize that we are in a transitional phase where system design under one environment is trying to adapt itself to a completely different environment. So I think the operation of that is a critical element.

MR. HEDERMAN: Joe.

MR. BOWRING: I'm assuming that the purpose of the exercise is not to define every possible market metric, but to define from the outset ten or 15 metrics that we could all pretty much agree on how to calculate it and therefore you could use as a way of comparing across markets. So I think in that light what you've laid out here makes a lot of sense. I have some quibbles about some of the details, but actually first let me and I'm not sure I thought I'd ever do this, but speak in support of the much maligned HHI.

I mean, obviously it's --

[Laughter.]

MR. BOWRING: Obviously it's a crude measure, obviously there are issues with it, and equally obviously I always provide the caveats when I use it. Nonetheless, while low HHIs don't mean that you have a competitive

market, you can be pretty sure that market structure is certainly relevant some of the time and if you only have two or three firms competing in markets, as HHIs will show you, of course simple accounting will show you as well, you probably have an indication that's an issue. So it's certainly not the be all and end all. I'm not sure any of these measures are. But let's not -- I don't think we want to ignore market structure entirely.

On intermarket efficiency I would just point out that I think you want to deal -- there are two topics under intermarket efficiency. One is intra-ISO and one is inter-ISO or intermarket. And I think they almost deserve separate categories. Obviously there are markets with within ISOs all of which are interrelated and the interrelations seems to be understood. But, in addition, obviously there are relationships between -- existing markets between, for example, BGEM in New York, between BGEM in the west and south. And, again, depending on whether the markets or how the markets are organized, those transactions, as we know can raise very different issues.

It raises a very different issue when you're dealing with contract path world or dealing with another ISO with Like&P.

Again, just another couple of other minor points on DSM. I think an important measure of the impact of DSM

and understanding DSM programs is understanding exactly what the price impact of those is. As far as congestion, I think the point was made by Paul Joskow and others that I don't think you want -- I mean, while it's certainly the case that there are some persistent load pockets, I don't think you want to suggest that load pockets can be defined going into a year and then you know what they are. PJM and I'm sure in other L&P-based markets load pockets are very dynamic and they change from day-to-day, from hour-to-hour depending on the physical configuration of the system. There is certainly some persistent ones that need to be recognized, but it's important also to recognize that load pockets are dynamic.

As people have also pointed out and we've had some experience with the relationship between FTRs and the rest of the market, particularly of the energy markets and bidding in the day-ahead market is very important to understand FTRs can be the vehicle through which the benefits of market power are realized. However, the actual behavior may be exercised via -- offers via running or not running generation or a variety of other methods. So it's important to remember there are some additional subtleties there.

MR. PATTON: I'll just add a couple more comments. The one area that came up that I think we haven't

mentioned that wasn't in your metric list, there are a couple, actually, relate to the commitment dimension of the market if we're going to run a multi-settlement system it becomes important to look at behavior that may impact commitment costs. So looking at the scheduling of load and the day ahead market, the accuracy of the load forecasts and whether they're systematically off in one direction or the other, and then looking at the differences in conduct between the day ahead and real time market, those probably deserve a -- and those relate heavily to uplift. I had suggested earlier that you want to make sure that you're tracking uplift and the causes for the uplifts. So it's often through that sort of monitoring that you get at market design flaws that create the opportunity to extract uplift from the system or cause you to have to make inefficient commitment decisions.

I will stress the out-of-merit dispatch issue.

And that's particularly important because I think one area where it's going to be difficult to standardize is the price setting rules because they're, I think, inevitably from market to market because the resource mix is significantly different and there are special resources in various markets that the -- what we found is that by tracking the out-of-merit dispatch you often uncover the areas where your pricing roles are something distorting prices because

something that really ought to be setting energy prices is not allowed to because it may not be flexible on a five-minute basis, but maybe it's flexible on a 15-minute basis.

MR. O'NEILL: Steve, can I clarify?

MR. PATTON: Sure.

MR. O'NEILL: The out-of-merit dispatch, you're not talking about the traditional out-of-merit dispatch where you dispatch the system assuming that there's no network and then you base -- you're talking about something much more sophisticated?

MR. PATTON: No. I think California calls it "out of sequence dispatch." We have called it "out-of-merit." So the one area where you run into this where we have a significant issue with this is in New York because of the reliance on gas turbines many of which are 30-minute gas turbines, but even the 10-minute gas turbines, they are not flexible on the five-minute time frame which produces our energy prices. So we've had to do some creative things for --

MR. O'NEILL: That's a very subtle out-of-merit dispatch.

MR. PATTON: Subtle? Well, it's not subtle when it changes prices by \$500.

MR. O'NEILL: Well, it's subtle compared to what most people mean when they say "out-of-merit dispatch."

MR. PATTON: Okay. Well, I'm glad we had an opportunity to clarify.

Included in the out-of-merit dispatch would be the scheduling of external transactions on an hourly basis which if you're taking an external transaction to prevent a reserve shortage, but yet it can't set prices, that can be a concern. So, I would include that in the broad area of tracking out-of-merit dispatch. But --

MR. MERONEY: David, just a quick question.

MR. PATTON: Go ahead.

MR. MERONEY: In terms of forgetting what the word is for out-of-merit dispatch, the kinds of things you just identified, what would you use as a measure? The incidents, some other further measure, the magnitude, what would you pick?

MR. PATTON: What we have tended to use is, you know, we've measured the quantity of generation that's running with our bid segments. Actually it's with bid prices above the market price. And usually we put some marginal tolerance on it to make sure that you're -- that you're really finding something that's being either dispatched manually or -- I mean, what you get at in a lot of these cases are reliability actions that the operator is taking to make sure that it maintains reliability in some area of the system.

Well, generally they're taking those without regard to market price. And they ought to, reliability is really their concern. But this sort of monitoring is important to understand whether those actions are having substantial unintended consequences on the --

MR. MERONEY: So this tracks also with uplift because it's something that does, you know, get out of the market. It gets paid, so the two should fit together?

MR. PATTON: Yes. It's related to the uplift.

In terms of the structural analysis I'll echo something that a number of the panelists said. It's really the pivotal supplier analysis is a more important analysis than the HHI analysis. Although to the extent that HHIs are important, I think they're most usefully applied in relatively narrow transmission constrained areas rather than computing them for the market as a whole. But I think the pivotal supplier analysis does focus on the transmission constraint related market power. And there I would say it's important to recognize that -- to do an analysis that's sophisticated enough to recognize all generators within what you called a load pocket don't have the same impact on the transmission constraint that creates that.

MR. O'NEILL: Does your pivotal supplier analysis include a demand curve that must be vertical at some point?

MR. PATTON: It doesn't have to. I mean, if

there is demand that's fitting, that should be represented in there, but, yeah, we have --

MR. O'NEILL: I don't know how to do pivotal supply if the demand curve isn't vertical at some point.

MR. PATTON: I mean, it's useful to know whether the residual demand is served by a single supplier, whether the demand is perfectly inelastic or whether there's some response to it. It might lead you to a different policy conclusion in the short run, you know, having the responsive demand versus non, but that's probably the most useful structural analysis that you listed.

MR. WOLAK: I certainly wholeheartedly endorse the sort of pivotal supplier analysis, I mean, more generally what really impacts the ability of a firm to exercise market power as Dick was alluding to is really the slope of the residual demand curve that they face. And, moreover, it's a distribution of these residual demand curves that are firm faces.

And I think in a very simple case if you just take the world of the vertical demand curve and the fact that there are hourly levels of transmission available into a region, hourly levels of demand, I think one of the things that's very easy to do in most of these markets is to essentially just compute the frequency with which one of these suppliers is pivotal. And I think that really

contains a lot of information in the sense that the probability that I perceive myself as being able to be a monopolist over what's left over is going to impact my incentive to essentially choose that strategy relative to another strategy that says, don't try to be the monopolist. In other words, sell on a volume basis.

So I think that you can expand that kind of analysis to a -- say, like eight, seven, six hours of the year, you've got ATC into the region, you've got the level of demand for each hour, you've got generation availability, you can actually then pretty simply look at to see who is pivotal, who's not, based on actual data and I think that gives you a very good indication, particularly in local areas.

MR. O'NEILL: What would we do after -- after were calculated who was the pivotal supplier, what would we do?

MR. WOLAK: Well, there's a wide variety of things that we would probably best talk off line since that's not the question I was asked. But, if you want, we can talk about it now. But I've got other -- I mean, I think there are a variety of things you can do in terms of sorts of mitigation measures. And certainly there's a bunch that have been suggested in reports that have been filed with the Commission by the Market Surveillance Committee, so

I'd be happy to talk more about that.

But in responding more directly to the question, I think the other things, there are several other things that I think are very important that aren't included on the list, or if they are, to the extent that they are, one important factor to me is, and I'm surprised David didn't mention it, because his opening remarks, is sort of who is monitoring the ISO. And I think that one of the things this really measures, you know, what the ISO is doing along a variety of dimensions, and I think some of the things he spoke about. But to me I think there's another dimension of it which is often what is, if you like least cost in the eyes of the ISO may not be what is most efficient for the market at large and I think that's something that is a particularly thorny issue for the market monitors.

And as I think one of the panelists mentioned, is that -- I think it was Steve that the market operator is the one that can make prices move the most and for that reason I think it feeds into another issue of data release and release of the dispatch algorithm. And for that reason I think those are both issues that really should -- we really should release them even if it is complex to use and we should release it for exactly those reasons that it makes it much easier to monitor the market operator.

And then --

MR. O'NEILL: Are there any proprietary issues in releasing the dispatch algorithm other than buying it from the vendor that sold it in the first place?

MR. WOLAK: Yeah. I mean, I would go more of the point that you don't have to buy it. It's posted on the web site and it's free.

MR. O'NEILL: Freeware?

MR. WOLAK: You're a market participant, you should be able to get it.

MR. O'NEILL: We're having a software conference tomorrow, we'll ask the vendors that too.

[Laughter.]

MR. WOLAK: Well, I guess my view would be that the ISO paid for it and you're paying for it in your -- you know, in your --

MR. O'NEILL: Well, can I have a copy of your Microsoft software?

MR. WOLAK: Well, you can certainly use it.

MR. O'NEILL: Paid for it, can you give it to me?

MR. WOLAK: Yeah, if you paid for it, I guess.  
But that's not an issue.

The other one that I think is a particularly useful issue is the issue that I think really is reporting of outages. And by this I mean, what is surprising to me is how little effort is devoted to getting very accurate

information on what is out, when it is out, precisely the duration that it's out. Given all the subsequent discussion about physical withholding it's going to be virtually impossible to make any progress on that issue unless you've got a very secure and very sort of clear process for collecting this information since one of the -- certainly one of the things that I can anticipate would happen is that if it certainly -- you know, generators are sure they mandatorily have to report it.

But I think this gets back to an issue that Paul Joskow raised, is that unless there's a formal process for how this gets reported to the ISO, when then the ISO or some other market monitor comes back and says, you had a plant that was not available that day and not producing to full capacity the generator then comes back and says, oh, it was out. Then you go, but you didn't report it to the ISO. Oh, we tried, but we didn't.

And to me, I think that you're not going to be very effective in market monitoring if you don't have a very well-defined mechanism whereby, you know, as Paul mentioned, when this is declared out, somebody signs off, it goes to the ISO. That is some sort of serious legal sort of constraint or commitment that's made on the part of the firm to verify that that unit really is out.

The other factor that I just would want to

emphasize on this is the issue that Paul Joskow mentioned and I don't know how much FERC can really have input to this. But I think it can simply just use the bully pulpit which is the ability and the requirement that load hedge. I think that, you know, there are things that can be done. Now, the question is, how much you want to do. But it certainly seems to me that the biggest lesson from California as well as the success in other markets is that you want to keep the spot market as small as possible, and the trouble is with a lot of the mitigation measure that are in place and a lot of the historical state regulation and federal regulation that exists there's not a lot of incentive for firms to engage in, in forward contracts.

So somehow that incentive either has to either get created or at least be mandated and that's, I think, something that's a very important -- so that goes to the heart of saying, you have to change incentives.

MR. O'NEILL: Anjali, if you would respond on that and then I have one other question I would like to pose to the panel.

MS. SHEFFRIN: I wanted to respond to Dick when he said, well how can the Commission use pivotal supplier analysis. To me it's very critical. You should use it in determining whether players should have market-based rate authority or not. You can easily look at the number of

hours that a supplier is pivotal and we've done the study in California with our data and I would, you know, support all of the market monitors doing a same type of study of correlating the RSI which is our measure of pivotal supplier with the mark-up in the market. And we found a very stable relationship there. So the Commission can say, if a supplier is pivotal in, you know, more than 5 percent of the hours, we're going to require some condition to market-based rate authority. So I think it's a very powerful tool.

MR. O'NEILL: Do you have a suggestion on the condition?

MS. SHEFFRIN: I do. I've offered it in my testimony before. What we found is if you're willing to tolerate about a 10 percent mark-up, then suppliers shouldn't be pivotal in their market, you know, more than 5 percent of the time, 5 percent of the hours in a year.

MR. O'NEILL: What is your mitigation? What is your condition on the market-based rates?

MR. WOLAK: A simple one would be a forward contract with load in the area of a certain magnitude.

MS. SHEFFRIN: Right. Right.

MR. WOLAK: Because that essentially then limits -- that makes you net short for a certain amount of energy. So --

MS. SHEFFRIN: So that takes care of the market

power.

MR. WOLAK: That would be a very simple one.

MR. O'NEILL: So they have to participate in the resource adequacy market?

MR. WOLAK: Well, and not only that, perhaps in a mitigated manner. I mean, yes.

MR. HEDERMAN: Another metric that we are trying to think about that perhaps got less attention in the draft and might have been ideal is independence for the market monitoring unit. That's an important consideration for the Commission. I would like to ask for volunteers on how would you have us explore the extent to which you are independent?

Go ahead, Anjali.

MS. SHEFFRIN: I think independence the way many of us look at it is, we have the ability to directly report our findings to the Commission, to the governing board and that, you know, management certainly can see it, but they can't restrict that information. I think that is the level of independence that we currently enjoy. And in my mind it is quite a bit of latitude. Everyone wants to know what's happening in the market. I don't think anyone wants to suppress that information. So our reports go directly to you, go directly to the California legislature, the public utilities Commission, and the governing board.

MR. HEDERMAN: Joe.

MR. BOWRING: As with everyone's market power I guess there are structural and performance aspects, but it's easier to talk about the structural and let me start there. I would agree with Anjali that an essential part of ensuring independence is the structure that is -- having a reporting structure which gives the clear ability and the testable ability of market monitoring to report directly to FERC as well as in some cases, for example, to an independent board of an independent RTO.

As far as measuring it, it's a little bit tougher. But, I mean, certainly one metric might be the number of arrows in each side.

[Laughter.]

MR. BOWRING: The number of proposed actions regarding various sectors in the market, for example, and, again, that's not dispositive because it may be that there really are substantive differences in behaviors across the segments. But I know that some market monitoring units have been -- for some ISOs or market monitoring ISO have been accused of not being as hard on transmission as generation, not being as hard on load and one of the others, or not being as hard on the ISOs as on the various segments. I think those are all legitimate concerns in market participants.

And one measure that is simply the extent to

which, for example, you've recommended changes in ISO behavior, changes in transmission, owner behavior, generator behavior, load behavior. Again, that doesn't -- it's not dispositive but it's a step in that direction.

MR. HEDERMAN: Steve.

MR. BALSER: For the vast majority, or at least let's just hedge a bit and say "majority" of activities that a market monitoring unit is engaged in, the question I don't think is a real question of independence. I think they work for an organization which structurally is supposed to be independent and maybe that independence speaks more to the overall governance of the ISO or the RTO or ITP, whatever term we give it. But there are a few, I think, critical monitoring functions which may need some sort of independent -- a more independent oversight.

I think when you get into the actual operation of the ISO itself, or maybe even the operation of the market monitoring you've just gained some market confidence. There probably is a need for some other structure or organization or entity which can ultimately give the market confidence that these people are doing their job. It's sort of auditing the auditor. And you're always going to be faced with that whether or not you have a completely independent market monitoring unit or one that's based within the ITP or both. One that kind of serves as a check and balance on the

other. You're always going to be faced with the issue of, how do I know that this particular entity is doing its job in a nondiscriminatory fashion and also just flat out doing its job completely.

So I think that the majority of what a market monitoring unit does is probably not so much an issue with the exception of maybe when we start looking at the operation of the RTO itself. And I think there we need to think about some sort of mechanism for making sure there's a higher level overview of what's going on.

But I think there's a need to be familiar with the operation. We all agreed that operation -- the way power systems are operated does have an influence on price and it is sometimes more difficult to get the full appreciation of how that works if you're too far divorced from it. But at the same time, there needs to be some overall ability to give the market confidence that there is no bias in the way the market monitoring unit assesses that.

MR. ETHIER: And I would just sort of add some supplemental comments that probably echo the ones that have come before. In terms of giving confidence to the marketplace, I think that's why these operational metrics are important. Because that's a step in the right direction for showing, look, the ISO is being transparent in the way it operates the system. It's being consistent in the way it

operates the system. And, you know, I can tell you from experience that we have a large customer service and training staff that spends virtually its entire day answering operational questions. There's a thirst for that kind of information out there in the market place with good reason. And I think that enabling that sort of discrimination and providing that sort of information will help build confidence in the ISOs and the RTOs and the RTPs because these markets are complicated and there are dynamics that people don't anticipate. And when you explain that to them, they often -- they understand what you're doing and why. And I think that can move us in the direction of having more confidence.

And the other sort of balancing act I would like to sort of point out are the tradeoffs that are potentially inherent in different governance structures. And somebody mentioned earlier that they feel they have a whole back pocket full of market metrics because they have the operational folks right there. I'm not going to get into where, you know, where your office is, but I think it is key that the market monitor have a good working relationship with the folks who operate the markets, who settle the markets, who design the markets because there's a very valuable feedback, I think, between market monitoring and market design. And that we need to be careful or that you

need to be careful when you decide how these are structured to be aware of those tradeoffs.

And, you know, the one that raised the biggest flag for me is the auditing of the RTO. I think that has potentially large implications on the relationship between the market monitor and the RTO/ITP staff. Maybe that's still the right thing to do even though it's sort of outside the scope of what, at least, I viewed are my group's core focus is to perform SASS 70 audits and so forth. But I certainly think that needs to be weighed when you allocate that responsibility to somebody. Are you going to lose something that's potentially more important by assigning a task that arguably could be performed by somebody else to a group that needs a good working relationship with the actual, you know, operations folks.

MR. HEDERMAN: David.

MR. PATTON: Yes, I think the independence question is hard to address until you nail down the scope of the monitoring so you can figure out what the implications of your independent policy is. And so the one place where the SMD is not very clear is exactly what is the scope of the market monitoring of the operations of the market operator. I think if -- the way the Midwest ISO is set up that's a very clear role within the scope of the market monitoring plan, it's clearly articulated.

In fact, I'll tell you, you know, it's amusing that in the development of the mitigation plan every meeting there's a portion of the meeting that's taken up with, we need mitigation measures for the Midwest ISO which I haven't yet figured out. But, let's set that aside for a minute and let's assume that that's part of the scope. Then the question, then I think it's the policies you've articulated make a lot of sense in order to ensure that that portion of the market monitoring scope is independent.

For example, not reporting to the management of the ITP/RTO, but yet reporting to the independent board and to FERC, I think makes a lot of sense in that context. And I would echo the comments of the prior panelists that how ever you accomplish the independent -- insure the independence of that portion of the monitoring I think full access to both the staff and the data of the market operator is critical.

MR. HEDERMAN: Thanks.

MR. WOLAK: I guess I view it as the two masters problem. And the -- in terms of the independence issue. One is the market monitor is in the ISO, the other is that it's reporting to FERC. And I guess I see it gets to the point that David raised of, to the extent that I think the two masters problem is very large, is the extent that inside the SNP is the presumption that within the PGA is going to

reside a lot of the authority to mitigate market power. And this to me is going to really create a large tension between the market monitor inside the ISO to essentially design the PGM to help the ISO versus to perhaps design the PGA to essentially facilitate the market say to work well. So I guess there's the tension that I see in terms of in the need to sort of make this independence clear.

And the other side of it is that I think can mitigate against that is the policy of data release. And to the extent that data is released to market participants, albeit, if necessary, with a lag and there is software available for market participants say on a licensed basis to essentially replicate market outcomes to understand the extent that the outer merit problem, to understand the extent to the lumpy generation problem, then I think you can -- I think that then gives you the ability to put more of the market monitoring function within the ISO because you do have this sort of outside monitoring that is going to apply the necessary pressure. But to the extent that you're not doing that, I think there is a need for some sort of entity that can at least help to solve the two master problem and that's where I think -- I, you know, once again, it sounds utterly and completely self-serving, so I'll say it, but I think that the sort of standard model that David and I are in sort of being independent outside monitors assisting

inside monitors. I think although it may seem redundant, I think does a good job of helping to solve that two masters problem under the sorts of circumstances where there isn't complete data release and there isn't disability for people to really -- if you like -- validate the integrity of the market as to the extent that they would like.

MR. HEDERMAN: Anyone else?

[No response.]

MR. HEDERMAN: Thank you very much. I think this has been very helpful to us. We will start up again at 1:30. We'll try to be prompt, so please get back here.

[Whereupon, at 12:30 p.m., the meeting was recessed to reconvene this same day at 1:30 p.m.]

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## AFTERNOON SESSION

[Time noted: 1:30 p.m.]

MR. HEDERMAN: Let's get started. Thank you and welcome back.

## PANEL III NYMEX, CFTC, SECRETARY, AND OTHERS

MR. HEDERMAN: This third panel includes experts from institutions that have far more experience with market monitoring than the FERC does. We look forward to your insights on this. We are trying to learn how to move forward. And if you were here this morning, you heard that we are eager students to learn how people who have more experience have figured out how to make progress. And we look forward to hearing from you about your lessons in market monitoring, what we should make sure we do, and what we should make sure we avoid doing. And I appreciate your coming here especially to join a Commission to which you don't necessarily have to deal with frequently.

If each of the panel members could take a second to introduce yourselves, I think that would be helpful to the audience and then we'll open it up to a dialogue. Could you star, Mr. Levin?

MR. LEVIN: Hi, I'm Bob Levin. I'm with the New York Mercantile Exchange, NYMEX, of course runs a number of very active energy marketplaces. At one point it ran a reasonably active electricity marketplace which we have been

resurrecting recently.

MR. DODD: Hello, I'm Randall Dodd, I'm with the Derivative Study Center. The center is a non-profit, charitable, educational organization that's funded entirely with foundation money. We don't receive any money from any businesses, exchanges, or over-the-counter dealers or even people in the energy industry. So we're completely independent of that.

Prior to becoming director of the Derivative Study Center, I worked at the Commodities Future Trading Commission, and before that I worked on the Hill covering, amongst other things, financial market legislation.

MR. HEDERMAN: Thank you.

MR. KOKONTIS: My name is Bill Kokontis. I am the acting director of market surveillance at the Commodity Futures Trading Commission.

MR. HEDERMAN: Thanks, Bill.

MR. HARVEY: My name is Alton Harvey. I'm in the Division of Market Regulation in the Office of Market Watch and we act as a focal point for the Commission's macro surveillance of the securities markets. And I want to echo the statements of your morning panel that any comments I make represent my own view and not necessarily those of the Commission or my colleagues on the staff.

MR. NORDHAUS: I'm Bob Nordhaus. I'm actually

one of your own, a former general counsel, but more recently a member of the California ISO market surveillance committee and a lawyer practicing in Washington at Van S. Feldman. Basically want to talk a little bit about how to match up the Commission's legal authority with what it's expecting of its market monitoring units.

MR. HEDERMAN: Thank you and welcome here.

There was a subject that came up this morning that I would hope that you can shed some light on. It deals with the liquidity of markets, trying to figure out how to assess that is particularly important right now in the energy markets with almost daily notices about a person, companies scaling back their activity in this area and in electricity markets. And particularly without there being a formal exchange there is an issue here about how we assess the extent to which liquidity might be drying up. And I would be interested if you had some comments about how you follow liquidity and if you have any suggestions about how we might do so.

Bill, would you care to start?

MR. KOKONTIS: Gladly, thank you.

An active study of liquidity is not the first priority in our Commission in terms of market surveillance, it's certainly a component. I could easily get to those first priorities quickly, but on your question, it's fair to

say, on a back-of-the-envelope approach, we would look at the width of the bid offer spread in an active market, the volume, and particularly the intermittence of trading activity, whether there are actually time pockets of no trading for a protracted or what's called an ever widening amount of time or increasing numbers of small time pockets, those would be ways to look at liquidity and together you would, as I have suggested, probably come at it with a back-of-the-envelope rather than a scientific and precise measure.

MR. HEDERMAN: Glad to hear any other comments.

MR. DODD: Are you interested in not just monitoring the liquidity but also how to encourage the liquidity in the market; is that your objective?

MR. HEDERMAN: Well, ultimately that's the Commission's objective. I guess our task today is mostly thinking about the measuring of it, but as long as you give your priority to the measure we would be happy to --

MR. DODD: Well, I would just add to what he mentioned, a few other indicators you want to keep your eye on. And one would be open interests and particularly open interests and put calls so that you've got a sense of the market depth.

MR. HEDERMAN: Yes, Mr. Levin.

MR. LEVIN: A couple of comments just because --

I mean, it's an interesting question in the context of what -- and I missed about the first hour this morning and I apologize for that. So it will probably negate everything I'm about to say, but there's a possibility it doesn't.

Most of what I heard this morning was focused really day ahead and real time. The liquidity that has dried up the most, but is still the most electricity markets is still more the forward market and that has dried up a lot. And it doesn't go out very far and it goes out, but it's monthly denominated as much as anything and PJM is probably the most active of those and Synergy is still an active market in spite of the changes it's undergoing as part of the -- I guess they call it the MYSO market, and so it's not so active after the end of next year in terms of commitments. That's not to say that the next day those are real deliveries and they do have to balance. And a lot of the policies, of course have forced transactions into the spot market and we still see the result of that today.

But if you were going to measure that forward market, since you don't really have a place at the moment to identify open interests and things like that, you have to poll. That's what we do. We have a commercial interest in that and we are very actively involved talking to people in the market and we consistently find out that it's not trading as much. There are some systems that are trading

some of those products. We try to get -- sometimes they publicly release information. For some reason they seem to be a lot less regulated than we are. We haven't always figured that out, but that's a different set of commissions. But we try to get a read on what's going on there. And the read we've gotten both from the public announcements and indirectly from participants is that their liquidity is dried up in those more active markets as well.

MR. HEDERMAN: Thank you. Any other comments on that point?

MR. DODD: Well, I think one reason you have seen a problem with liquidity in the markets is people's deep concern over credit quality. And that would be something also that a regulator would want to keep an eye on, it's a little hard to. It's harder mentioning to keep an eye on even volume and open interests if there's not reporting requirements. It's an additional burden to keep an eye on credit quality although that clearly is, I think, what's dispositive at the moment in these markets.

MR. HEDERMAN: Thank you.

On the point that Bill raised regarding priorities, could we start with you, Bob, and I would like to hear what your key points for us to keep in mind would be going forward.

MR. NORDHAUS: As I look at the standard market

design proposal, it seems to me that the key element or one of the key elements for making it work is making sure that your market power mitigation mechanisms can function. And I think most of the discussion today has been on sort of the middle and not the beginning and the end of monitoring and mitigation and that is, what data to seek and what conclusions to draw from it. I think it's critical to look at the front end and the back end. The front end is making sure that your market monitors have the authority they need to get the data that's necessary to do their job. And at the back end a mechanism by which they can expeditiously working with their RTOs and with the Commission correct market design flaws and redirect misbehaving market participants.

Let me start with the first issue which I think is access to data. It seems to me that -- and certainly borne out by our experience when I was on the market surveillance committee in California was that the market monitoring unit and the market surveillance committee had access only to a limited range of data and were unable to access out-of-market -- basically had access only to data that came into the ISO. Your standard market design proposal proposes to go beyond that, imposes an obligation on market participants to respond to market monitor's requests for data. But I think there are some critical

issues there that you should look at.

First is, who has the obligation to respond and in particular how you're going to -- what you're going to do about affiliates of market participants.

Secondly, how you deal with what sanctions there are for false or inaccurate reporting. And one of the questions is, does the federal false reporting statute, 18 U.S.C. 1001, apply to information given to a private entity operating under commission supervision in the same way that it applies to data given to the Commission. I think that you have -- you could probably deal with that, but it seems to me it's important to make it clear that inaccurate submissions to a market monitor are subject to the same criminal penalties as inaccurate submissions to the Commission.

Third, I think that there are some important issues about by lateral transactions and transactions outside of the market with the monitors. And I think your regs need to make it clear what access to information market monitors have outside of the markets operated by the RTO or independent system provider.

Finally, I think there is the question of sanctions for failing to provide information and remedy and it seems to me if you're going to make this work that you have to have the ability to promptly bring the force of

FERC's very broad data gathering authority to bear against a recalcitrant market participant and that's not fleshed out here in the reg.

The other thing just very briefly I would mention is the what you do once you have got the data analyzed and found out either you've got a market design flaw or a market participant who is breaking the rules. And I think that particularly on the market design issue that there needs to be a mechanism that goes beyond simply making a -- going through the long, time consuming and litigious process of a tariff change in order to correct market rules. I think you need to look at some emergency rule authority that you vest in your independent agencies that can let them change the market rules quickly subject to the Commission pulling them up short if they've overreached.

Those would be the areas I would say the front end and the back end need attention as well as what day do you want how to analyze it.

MR. HEDERMAN: Thank you. Mr. Harvey.

MR. HARVEY: I hope we can be helpful in this discussion, but I'm afraid that there are enough differences in our markets that a lot of our lessons learned may or may not apply to yours. I mean, for one thing we have an extremely liquid, transparent and competitive market. So our primary concern usually is not liquidity constraints,

it's a broader type of manipulation, insider trading, along those lines. What you see in the Wall Street Journal every day, that's usually our concern. Shortage squeezes are not as common, at least in equity. I'm not speaking for the debt markets.

In addition, we have a very strong self-regulatory organization structure. Most of our day-to-day surveillance is done by our SROs who are the marketplaces themselves. And they have a very close working relationship with our own SEC enforcement staff. We have an inspection group that their sole purpose is to routinely go into these SROs and look at their surveillance operations top to bottom to make sure that they're doing an adequate job. If they're not doing an adequate job, we could bring action that they failed to bring and we could also sue the exchange. And then the last resort, we could close the exchange. So that's a very different structure from what you're operating under.

Also, we have authority for access to every business record of every broker/dealer exchange, clearing organization, no questions asked. And it doesn't mean that they won't ask a question, but I'm just saying that the courts have generally supported our authority to get the records if we deem it necessary for the public interests.

So I'm not sure how much of that model could be

applied to the areas of your concern, but to the extent we can offer any insight, we're more than welcome to.

MR. GOODING: Let me ask a question. Are there things you think we can be doing to facilitate a more liquid market? Does anybody think there are things we can be doing at this point that will really help move that forward?

MR. LEVIN: I'll start.

MR. GOODING: Please.

MR. LEVIN: I'll try to be brief because we probably have a lot of view, but also anticipate where FERC is headed, I'm not sure every one of your policies currently is designed to encourage liquidity. If you really want to talk about that extensively, I'd do it more off line and we would be glad to prepare things on that. But an area that if you're trying to encourage liquidity, I mean, there has to be a purpose for the trading.

And one of the things that is noticeably absent is that you don't have a lot of competition customers in the electricity market. This morning's focus was so much in generation it was the same old, same old. I mean, the generators selling to -- in fact, it sounded like a very regulated environment everybody was talking about. They're worried about, well, the consumers are all buying from the one market. So all the generators are lining up whether merit dispatch or not, and they're going to evaluate that

and everything that goes with that. That doesn't seem to be a focus that say, well, how do we get a market moving where we have customers being competed for whether by the generators or somebody going to the generators and getting that going.

That's going to come back to how commercially useable and friendly transmission is. That's a key. They will figure out how to buy power from each other. And, I mean, there are other factor too. I don't want to whitewash or to make it seem so simple.

There's a lot of ways to put a chill on a market. But one area, if you're really trying to get liquidity going is to try to encourage and make it easy for parties that want to engage in commerce, think about commerce as a positive thing, that's what liquidity is built on and give them transmission rules that make it easy for them to perform their obligations associated with their commerce. If it's difficult they're not going to do it. So far it's been very difficult and they haven't done too much of it compared to gas. Gas is a lot more transactions with users and the producers and everyone in between than electricity. I mean, within this building you really do have the knowledge to see that difference, you know, do more like gas.

MR. DODD: I think the demand for the

transactions has got to be there. These people on the supply side have tremendously high, fixed costs in their industry. They need to sell.

People on the demand side have a very inflexible demand for electricity. And to me it's crazy to see these people try to meet in a spot market. You wouldn't, on a foreign planet do that with a supply of oxygen. As soon as the guy was starting to turn blue in the face, the suppliers would rip his face off and then his lungs out.

It's natural in this market to me that they do go to long-term contracting. They do go to a derivatives market. And so I think the demand for the transactions is there. In order to facilitate it, I think there's just a couple of principal things you've got to take care of that may not be immediately in your normal jurisdiction but would be something you would want to work on.

One, of course, is making sure that the credit quality of the counter parties is adequate. That's what I think we see as a huge problem right now. No one trusts the credit quality of people to trade with because there's no capital requirements for the dealers in the derivatives market. There's no collateral requirement for any of the transactions except for the ones traded on the exchange of NYMEX.

And I think the other thing you need to keep in

mind is the transparency issue. You know, reporting on -- this woman on the first panel this morning -- I'm sorry I've forgotten her name -- but she listed some of the things that you would have known in a proper transparent market like you know on NYMEX. You don't know it in this market necessarily.

You also want to make sure the markets are placed against fraud manipulation so you're not getting your face ripped off. And so if you have people that can trust the counterparties in terms of creditworthiness, and can also feel that it's a transparent market so everyone also knows all the prices, so I don't -- if I'm a small or a medium-sized participant in the market, I don't feel some big guy is getting ahead of me. Because they've got better information, they've got information that I don't have, but should have. So if you compare us to the securities market everyone knows the price of IBM stock. There is not an inside or there's not a dealer price that's known differently than the other investor prices. It's a more egalitarian, democratic platform.

And so you create an energy market that's got those characteristics where everyone knows the prices, where everyone can trust that if you do a trade it comes off, and where you also know that markets are being policed for fraud and manipulation, I think that natural demand, that need for

these services in an industry that's characterized to have more need for it than most others, I think you'll see the volume.

MR. LEVIN: Randall has brought up twice and he's right about credit in the energy markets, and I'm sorry, part of my mission, to be honest today, is a little bit of damage control. So I'll be a little paranoid.

I don't think that in spite of everyone knowing that that we would want to invite this Commission to start trying to manage or evaluate or really intervene into that. It's unfortunate that there are credit problems and you may be able to identify it where they come to play with things that your mission is particularly focused on. But we don't need any more help in there. And I think one thing that you have to consider as well as you're going along, and I understand that much of what from a regulatory view is being looked at and proposed today is seen through the prism of California, whatever that means to anybody and everybody.

California had a lot of -- from some perspectives, micromanagement of its market from the regulatory sector. And maybe you need to be thoughtful that you don't want to recommit that part of that mistake. And so obviously I'm saying with credit, but other things -- and I don't mean that disrespectfully. I mean, I think people are aware of it to evaluate. Well, how much are you telling

the market what to do. Because if you tell them to do something they'll do it. They may get around it. You may just put a chill on things, or they may figure out the part of them you didn't tell them to do, but if you tell them what to do, they're going to do it and later on you may regret some of that.

MR. HEDERMAN: Bill.

MR. KOKONTIS: I'd like to pick up on several of the points made, but really start perhaps saying something between what Alton just mentioned in terms of comparing the securities world to the power world. I think we are in the commodity futures world somewhere in the middle, somewhere in between. And I want to say positively that I think there in the world of trading at the CFTC does regulate, I'm glad to say it is possible to collect confidential trader position data, market position data, highly sensitive. It's possible to protect it, its confidentiality. It's possible to analyze it, compare concentration which is what we concern ourselves with because our act makes manipulation of prices in the commodities futures trading world illegal, so we look for dominant position or market concentration. We also look for unusual artificial manipulated prices on economic prices, so we have analysts full-time dedicated to following each separate market, real-time continuously looking at market position data participants, the reportable

traders, and looking at economic and price data as relevant and making an on-the-run assessment every day continuously. Is this market economic or not? And if it isn't is it possible -- plausible that this trader or this set of traders is causing artificial price.

And if we come to that assessment on the run, we spring into action and get more data. We will contact those traders, we will find out their intentions because it's the third part of making a manipulation case and we will find out everything else we need and have residual powers to get additional -- that is, non-routine data of the sort Alton also mentioned. We can compel production of records that are relevant of any sort so that in the end we've got an early warning system that is composed of market position and a sensible, feasible, perhaps low resolution, but broad and wide picture of what's going out there.

If we get hits, if we get blips, then we drill down and look for much more additional, high-resolution, and costly information. And I think there's sort of two worlds to this data question. The cheap and low resolution and high-cost, high-resolution data, and I'm not sure how to apply those dimensions to your problem, but I think that's sort of partly where you need to go is the early warning that gives you the necessary pointing in the right direction and then the ability to get additional data.

I want to second what Robert mentioned in terms of the ability to compel timely and accurate reporting. Without that, you might as well not be dealing in metrics.

And in any case, addressing another point that was made earlier today, I think we can, by our history demonstrate that it's possibility to aggregate sensitive data sensibly, usefully, and publish it. Make it available to people to use who are in the market. We do this on a weekly basis. And through all of this we are somehow able to maintain the confidentiality of the data and the confidence of market participants. It's not an easy thing, it's not a cheap thing, overall, but it's not impossible.

And it has to be tailored to the nature of the act that you're enforcing. Ultimately, what data and what metrics you're up to has to be conforming to the goals of your legislation.

I think I'll leave it at that.

MR. HEDERMAN: Let me just follow up and then I'll get back to Alton who was interrupted there.

We really have appreciated the cooperation and the guidance we've gotten from the CFTC and our observation of your market surveillance efforts have been a guide for the development of our market surveillance reporting now in closed session to our Commission and we thank you for that.

As you're talking, I think I have the same

question for you and for Alton related to something that I think we do have in common is having, if you will, delegated some authority to monitors who are much closer to the marketplace, if you will, and if you could speak to that, both of you, in turn, I think that would be helpful.

MR. HARVEY: Again, in the securities markets we had the advantage of when the Commission was created we already had thriving security markets which had a reputation for integrity which took something of a battering after the 29 crash, but then hopefully it's been restored since then.

So it really made sense to build off of what was already in place. The markets already did a fairly good job of doing the day-to-day market surveillance tasks. You're right, they're closer to the trading. And they have a certain expertise being that much closer to their own markets than we would. It was also a way for us to multiply our effectiveness. When the SEC was created there were over 50 stock exchanges. We would have had to have been the size of the Department of Defense to try to do surveillance for all of those operations. Even in today's electronic world, electronics only get you so far. Eventually you need to sit down and talk to the trader involved and get first-hand records and it's very difficult to do for multiple markets.

But coupled with that, we have a strong oversight of the SROs, the self-regulatory organizations that do the

surveillance. So, as I said, we have inspections teams, that's what I did for ten years. You would go out with a team of five to ten to 15 attorneys, analysts, and you would go through not only their surveillance operations, their preliminary investigative files, their more in-depth investigative files, you would ask, why was this question not asked? Why was this case dropped? You would look at the recordkeeping at the exchange for transactions, that type of thing. And so you had -- it was trust, but verify approach. And with the clear knowledge that we could very well bring the action that they failed to bring and we could also bring an action against them for failing to live up to their obligations under the Securities Exchange Act of 1934 to act as self-regulatory organizations to police their own markets.

I do want to also say that I can't overemphasize the importance of transparency. To the extent you can have information on -- especially on transactions which you can strip away the more confidential information and yet still make the general information public, you have a lot of benefit from that. So that if a trade goes off on IBM, you know the price, you know the size, you know the time that it occurred. And there's no harm to the public to know that. Now, they don't need to know that it was pension fund A that was ultimately selling and it was a hedge fund B that was

ultimately buying. That level of detail is confidential.

You can have that in your own surveillance records at the SRO and at the SEC.

But having that other information available to the general public, gives you one added benefit. In addition to the SEC auditing the SROs, the financial media audit all of us. And to the extent that you have a very transparent market and it doesn't take a genius to look at the blips and the charts and traders love to talk to reporters, you know, that's an added control that you have in a very transparent market which you don't have if everything is so complicated and so confidential that the only time anyone in the general public hears about it is when there is a scandal.

MR. HEDERMAN: Thank you.

MR. KOKONTIS: I would, again, second and echo Alton's remarks. In our environment there is a parallelism of oversight between the Commission and the various exchanges who are SROs as Alton put it and as the SEC as a partner with the NASD on the securities world, we are a partner with the National Futures Association and in fact some of their representatives are present here today.

So the sharing of the burden of regulation and the sharing of data on a parallel track among parties to -- separate parties to the regulatory task is something that is

a common place and it's something that I would recommend because in the day-to-day -- and especially in the non-routine and difficult passages of doing surveillance having different eyes on the screen and talking to them, when I say that, I mean to our colleagues at the exchanges of the relevant market, gives us a set of bearings and, if you will, stereoscopic vision again on this sometimes opaque landscape of what's really going on.

So it is a useful thing to keep in mind. From time-to-time it's visited as an unnecessary cost feature to regulation and we're continuously looking for ways to streamline the cost of doing -- call it parallel regulation and position reporting and so on. But it does provide useful backup and perspective which is sometimes extremely important.

Because, again, as I think in your environment you will see, you need to prevent the market disturbances perhaps even more than after the fact prosecute the guilty parties. And we're in that same boat. We are required to detect and prevent the manipulations on a real time basis. And that means you've got to talk to a lot of people. That means carefully handling this confidential data. I don't want to minimize the urgency and burden of that. But having parties in that enterprise is a smart thing.

MR. HEDERMAN: One point related to that and it's

come up as a concern from some market participants is, if the market monitor is paid through a budget that comes from the market, how do you have adequate independence? I would assume that this is an issue that's become a non-issue for the SROs. How do you -- is there any specific protocol or principle that's embedded in the enforcement groups that makes this work, or is it so much in the self interests of those marketplaces that they need a credible enforcement group?

Mr. Levin.

MR. LEVIN: I represent an SRO today and I can only echo everything, especially, that Mr. Kokontis has been saying because obviously they're our regulator.

I think the last point you made is a very, very powerful influence with us. There are very few, I would say, of the regulations that we find ourselves abiding by that at the end of the day don't make commercial sense. I mean, the transparency, why wouldn't we want the public to see that we are the place where oil prices are determined, natural gas prices are determined. I mean, we are trying to be an ongoing entity at the same time as performing our self-regulatory obligations. So that is a strong influence.

But as I think Bill was also saying, we answer to them and we can -- enforcement actions against us and we can drop the ball and be found in violation of things and we

take that seriously too.

I think regulation applies to the exchanges themselves. Or in this case, and it still haunts me a little bit, you know, the ISOs in that role. And I like to think of them more as ISOs and exchanges to be honest with you. But nonetheless, they have regulations that apply to them. And so in theory I can understand that concern. But as long as those regulations are enforced, they also want to operate a viable market. Ultimately I would think they would want to have as much business going through their ISO as possible. Trust is a very important thing there.

MR. DODD: Could I just remind us of one problem that did arise with the SROs back in the soybean manipulation case in the Chicago Board of Trade where the head of the SRO of the Chicago Board of Trade had to demand the -- I believe it was Farutzi who at the time were presumed to be manipulating the market. They had to demand that they liquidate the position. But as it turned out, several members of that board had positions in the market that benefitted from the liquidation of their position. And so that set off a series of lawsuits that you gentlemen probably recall and it was not a pretty picture.

I think that one thing that we should learn from that was to make sure that it's not a conflict of interest between the people and these SROs and the markets that

they're trying to regulate.

MR. NORDHAUS: Certainly your experiences with the California market illustrate the importance of having an independent system operator and a PX that are fully independent. And much of both the era when the entities had stakeholder boards and the current era where the entities appear to be controlled by the state, raise all kinds of questions as to whether market participants can have confidence the data that they give these entities will be not used against them in the marketplace as opposed to enforcement proceedings and, I think, in general raise questions as to the fairness and effectiveness of their role in the marketplace.

I think one other sort of issue that came up in my experience, anyway, was a concern that the California PX, when it was still in operation, that it was so dependent, ultimately would be dependent on market participants choosing to use it once the period when they were required to use it expired that there was one, I think, significant concern that they were not willing to vigorously enforce their own rules for fear of scaring off would-be participants in their markets.

So I think that the two lessons I draw is, one you're insistence on independence is important; the stakeholder boards such as the Chicago Board of Trade had

back in that era and -- or other types of control of the institution are a bad idea if you're going to have effective enforcement through these organizations.

And, second, that to the extent that their marketplace is by choice of their customers rather than regulatory fiat, they may be to some extent disadvantaged in enforcing their own rules. And I think in California you had a PX that was closely regulated by the Commission and then other exchanges that were not. And I think that in particular was a difficult situation.

MR. HEDERMAN: Alton.

MR. HARVEY: I concur with the statements, especially Bill talking about the SRO structure. We found it worked generally fairly well. Now, whether it comes from self-interest or fear of the Commission going in and bringing an enforcement action against themselves, it's probably a balancing act, that the exchanges need to have a reputation for honesty and fair dealing to bring in the business because it is so competitive. If one market gets a reputation for playing, you know, cute with the rules, what would lead investors to send orders to that market versus the five, six, seven other markets that offer stiff competition and may not stack the deck against the investor. Plus, we also have the luxury of a 50-year history of being very aggressive and bringing enforcement actions when we

don't think the SRO has lived up to its obligation.

So whether it's the shotgun behind the door as Justice Douglas said when he was heading the SEC years ago or whether it is enlightened self-interest, it's a hard judgment to make.

MR. HEDERMAN: I had one quick question for Bill about CFTC metrics. In terms of what you're watching, you mentioned the bid/ask spread and open positions, are they really the keys in terms of what you're watching? Are there other metrics that you would suggest for energy markets that you find helpful in your commodities work?

MR. KOKONTIS: Those would be metrics occasionally. I would not say that that's as often a major issue because the problem markets tend to be the larger ones and liquidity is not so much an issue. Now, that's in our realm. I don't want to say that that's the universal by any means. And it's not to say that there aren't problem markets that are small, because of course there are some. Our primary metrics are the ones I mentioned in terms of large trader positions and the gathering of that data continuously, that's on a daily basis, but it's an ongoing continuous process. Positions that summarize the brokerage firm positions at each exchange, and that provides a kind of a check.

We are able to get the identification of all of

these reportable traders, that's on a compelled basis and provides us quick access to the right people to talk to if there is a problem. And we're able to compel these data and records and by law people have to provide the information. There is no shortcut to that and failure to report accurately on a prolonged basis or a willful basis can be prosecuted. Luckily, I'm glad to say that is not common. But we also can obtain information on a need-to-know basis, that is, on an ad hoc basis we can inquire very deeply into a firm's or an individual's records that are relevant to a matter and that might only be one set of questions, or it could be over a prolonged period of time.

Certainly investigations involve a great deal of digging and data mining within the records of a firm or an individual in question. Beyond the problem of preventing manipulation, we have also the mandate, the problem to police compliance of rules to prevent customer abuse. We also obtain a whole different stream of data from the exchanges about every transaction in order to assess on a lagged and periodic basis and somewhat mechanically whether that is abuse of customers by intermediaries going on, on the exchanges. And that's a huge amount of data, but it's not necessarily real time.

Finally, we do obtain quarterly financial data that speaks to collateralization and capital adequacy an

essential element and all these things together are part of promoting and supporting competitive and healthy markets. No one of them can be missing and the market remain healthy. At least that's our experience.

Occasionally liquidity measures are important. But I would say, for my own -- monitoring and watching and supervising all this activity nationwide, as often, it's not a top priority. It's almost always a second priority. It becomes important at times, liquidity measures.

Is that an answer to your question, Bill?

MR. HEDERMAN: Yes. It's helpful.

Any other questions? Dick.

MR. O'NEILL: About a month or so ago a publication which is basically dedicated to traders had a headline that said, "Lack of Liquidity Keeping Prices Down." I have not been able to understand or decode that message and I was wondering if any of you people could help.

[No response.]

[Laughter.]

MR. KOKONTIS: Again, I don't want to dwell on a subject that I do not fixate on myself continuously, but I will say it's possible. It's possible that when a market is so illiquid that the one side of the market or the other simply departs because they have a better alternative somewhere. Generally that's what you're looking at. It can

have a price effect. And if that had happened, there would be a concern in our Commission about whether or that price effect, you know, could have a regulatory tingle to it. And we would look closely at that.

Sometimes market liquidity is a major issue. But in my own experience it's not as often an issue as market concentration and artificial price, per se.

MR. HEDERMAN: Bill.

MR. MERONEY: This is a fairly general question, but one of the similarities an this is primarily for the CFTC, between what would have another SMD is that under SMD you would have organized, in this case, cash markets, as part of the market design that would exist side-by-side with other markets outside the exchange. So I guess my question then is, what thoughts do you have on metrics that would sort of cover both of those markets and the relationship between them and how important that is to kind of keep track of that?

MR. KOKONTIS: What I was describing as our methodology pertains to our traditional and fully regulated markets. In the very recent era Congress has enacted legislation which provides for the gradation of different kinds of markets according to who are the participants, what are the products, what is the nature of trading, and providing for lesser amounts of regulation and lesser

amounts of data. I think that may be what you're referring to, at least from my context I think that's part of an answer. And we're just beginning that process of looking at the data question as part of a different tier or form of regulation for a non-traditional or less fully regulated markets.

I will say though that we still have anti-fraud and anti-manipulation authority to at least deter, by prosecution any activity in some of those kinds of markets. And I guess what I think that means is given that the nature of the participation to make a blanket statement does not include the public in these other forms of markets. Somewhat less regulation could be countenanced and less amount of data required because there are fewer participants and they are not the public.

I'm not sure I'm answering your question, but that's a stab.

MR. GOODING: We can see in the existing markets or where they exist in the ISO the spot as well as the day-ahead markets. We are collecting quarterly data on transactions and contracts. How do we link that or do we want to link that to the financial markets as far as risk management, derivatives, things of that nature? How do we do that?

MR. LEVIN: I think what you're going to find is

that the -- say the more financial markets and they might have a -- most of our markets have a physical delivery component to them. So, I'm not even going to call them hybrid. It's true that most people that conduct commerce in NYMEX, let's say in the natural gas market, do not go to delivery. I mean, obviously FERC is somewhat familiar with that subject. But, nonetheless, there's a delivery obligation there if you do not otherwise liquidate your contract. And there's a sizeable amount. Altogether it does get delivered, it just happen to be sizeable compared to what gets traded.

So just to make the distinction, but I do think the commodity markets as they start to build around the cash market mechanisms what I guess ultimately derive from your spot markets will probably still be more forward in nature. I mean, we've talked with a lot of people in the market. I mentioned we're talking about bringing more contracts in. There's a variety. It includes physical delivery, it includes cash settle.

One thing, and I can't remember if Bill said it, but clearly the exchange looks and so does the CFDC look to make sure that our prices reflect comparable cash transactions. So it would be those more forward markets that kind of meet there.

Now, sometimes forward deals are structured so

that they price almost identically to some component of the spot. It's a mathematical equation, the weighted sum or some sum, but not always. Sometimes the transactions go off on their own and spot, as it should, reflects more of a residual market. So you're getting both types of transactions.

Obviously the way people are conducting forward deals that are based algebraically on spot prices, you should see a very perfect convergence there, otherwise, they may differ over a period of time and there's nothing wrong with that. Nobody should feel upset. When people are transacting forward for a month prices were higher or lower than they were when you actually headed up the spot for the hourly prices. The same thing between day ahead now that I think of it and hourly. The same sort of relationship.

MR. HEDERMAN: Okay. Is there anything else that you would like to mention? I think we started off with an open-ended question and got off on a lot of other items. But I suspect you've shared the thoughts you wish to get to us.

Well, thank you very much. We appreciate it.

We will skip the break and move on to the next panel.

#### PANEL IV MARKET PARTICIPANTS

MR. HEDERMAN: Let's get started.

Thank you. Before we begin this next panel, I would like to point out that if there's anyone in the audience or any interested party who wishes to make a written submission regarding the topics we are discussing at this conference, please send them to the Commission noting Docket No. RM01-12. And certainly any of the panel participants are welcome to do the same.

This group is a group of experts from within the market participant side of the house. And I would appreciate it if each of you could make a brief introduction of your interests in what we're doing.

If we could start with you, Mayer.

MR. SASSON: There, I got the mike working. That's the most important thing.

First of all they misspelled the name, but it's M-a-y-e-r, for the record.

MR. HEDERMAN: Yes.

MR. SASSON: My name is Mayer Sasson. I am a principal advisor for energy markets policy at ConEdison. I work with the New York TOs in the transition between the New York power pool to the New York ISO and was responsible for the implementation of the ISO systems.

Since start up, I have been working on the market models with special attention to market performance in New York City.

MR. HEDERMAN: Thank you.

MS. CLARKE: Hi, I'm Linda Clarke with Exelon which is a utility holding company for Commonwealth Edison in Chicago and Philadelphia Electric in Philadelphia.

I've been with the power team for about a year. I'm involved in their wholesale trading side providing regulatory support in that area. Been there for about a year and prior to that I was at PJM where I was the manager of market development where I was responsible for developing the technical systems for some of the markets that we're talking about, pricing, FTR to settlement and I engaged a lot in developing the training for the participants. So some people say I've gone to the dark side.

[Laughter.]

MS. CLARKE: Hopefully I can try to enlighten you a little with some of the things I've learned about the participants' behavior.

MR. HEDERMAN: Thank you.

Even Darth Vader came back; right?

[Laughter.]

MR. HEDERMAN: I'm not endorsing that earlier statement.

MS. KELLY: I'm Susan Kelly. I'm listed here as representing the National Rural Electric Cooperative Association. I am outside counsel to that organization. We

are here today because we have 35 million member owners that are served through the medium of about 960 member-owned, operated and controlled cooperatives.

We are generation short to the tune of approximately 50 percent. Most of the generation which we do own, we will be self-scheduling, obviously to meet our own member owners' needs. So we see ourselves much more as buyers and LSEs under your new rubric than as sellers in this market regime and I'll be commenting from that view point.

MR. STAGLIANO: I'm Vito Stagliano. I am a Vice President with Calpine Corporation. We are an independent power producer that operates in most of the regions of the country, especially and including those that do not yet have organized ISOs.

MR. STOUT: My name is John Stout. I'm with Reliant Resources. We have assets in the ISO areas in California, PJM, New York, and a few places where we're still looking for an ISO.

[Laughter.]

MR. HULL: I'm Gerit Hull. I'm in-house counsel for PacifiCorp and I have represented PacifiCorp in the public process that was involved in producing the RTO west market monitoring plan in the RTO west stage two process.

And more recently I represented PacifiCorp in the

process of making west wide market monitoring plan  
 recommendation with the wester interconnection Steam  
 Steering group.

MR. HEDERMAN: Thank you.

I would like to start the discussion with some  
 comments from you about your experience with market  
 monitors. I know not all of you have had the pleasure yet,  
 but perhaps, Mr. Stagliano you could talk about this issue  
 about how have you found the work that the market monitor is  
 doing to be affecting the marketplaces that were important  
 to your company? Has it been helpful; and how? Or has it  
 been a problem; and how?

MR. STAGLIANO: Well, so far the experience  
 varies obviously by the regions in which we operate. As you  
 would expect the most problematic relations are and always  
 have been in the state of California where it is mostly a  
 matter of recurrent changes in judgment as to how one would  
 react to the market and the market monitor. And, it is a  
 matter, I think, for consideration today as to whether or  
 not what is put on the table in the staff paper and in the  
 SMD is really a reaction to the exceptional circumstances of  
 California as opposed to the real requirements for the  
 markets in the rest of the country which may or may not need  
 the level of intensity and observation that maybe should  
 have been applied to the market in California.

I would say that we are, as a matter of fact, what Paul Joskow mentioned this morning, which is a generator that builds plans and mostly sells the output over the long term on an actual basis. So to the extent that we interact with the market monitor it is only for the limited bid into the real time market that only occasionally affects us.

I would say that in California, as I said, one is always on the defensive because the rules always change.

In the case of Texas we have not experienced any serious problems nor in New England or New York or PJM. So far the market manager structure such as it is has not affected us in any profound way. It might in the future as we'll discuss later in the panel.

MR. HEDERMAN: Thank you. Sue, would you have comments on this?

MS. KELLY: I would just actually note that the experience that I am aware of, of our members is very limited and goes primarily to seeking to invoke the help of the market monitor.

Without going into details, just let me say that one of the things that we've come away with is the independence of the market monitor from management of the entity is very important and that we applaud the independence provisions that you've included in the SMD NOPR

on that point.

MR. HEDERMAN: Linda.

MS. CLARKE: I think to understand where we're coming from with respect to how we would grade, if you will, the ISOs, you have to understand what we think their roles should be. And I guess we believe they should be monitoring the ITP, the actual actions of the RTO as well as the transmission owners, the ITC, and the behaviors of the generator and load participants. With that in mind, we have assets in almost every RTO that's up and running and also have some in some of the non-jurisdictional such as Arcot in the Canadian provinces. What we see is a lack of consistency in which we deal with the market monitors. And we think the standard market design and some of the proposed definitions that you have for defining behaviors will help that situation in terms of you've characterized the behaviors, economic withholding, physical withholding. We think those definitions need to be expanded upon so that in fact we do understand, for example, what economic withholding is.

One of our experiences has been when you have a portfolio of 40,000 megawatts of generation located throughout the United States, with maybe 25,000 megawatts of load obligations, you have to manage that portfolio and sometimes, you know, you're moving your energy from one

market to another and you may be seen as economically withholding in one to cover for a load obligation that you have in another.

So I think it's important to -- you know, the definition, for example, right now in economic withholding is anything under the bid cap. Well, if you're under the 1,000 megawatt bid cap, perhaps PJM might consider that economic withholding. So that's where we're seeing inconsistency.

The other thing that is challenging is the different types of mitigation measures that are being either developed or are already in place. We did a matrix comparing PJM, ISO, New York and New England based on the four mitigation measures as defined in your SMD NOPR and we found that not two of them are similar. So our hope is that as we move forward -- and we're a strong supporter of standard market design -- that that can become a little closer and we can work with that. And I think the only other thing we're challenged with is a clear definition on what's considered marginal opportunity costs.

I mean, to us marginal opportunity costs includes not only a production cost plus 10 percent or some variable O&M and a fuel adder which has been characteristic when it's been in the electric utility industry for probably 20 years. We think you have to include other things such as risk

premiums, fuel. You know, we have to engage in fuel contracts, you have insurance, you have taxes, some other things, some of your fixed costs need to be recoverable in that marginal opportunity costs. And we are pleased to see that the word "opportunity" was in there because we think it's more than just marginal costs.

MR. SASSON: I would like to comment on a couple of things that we heard and then try to answer your question directly.

We do think that mitigation measures are very important as part of SMD and not only for California. I think that if the Commission is going to be successful in meeting its SMD goals, there has to be mitigation, market monitoring and mitigation measures to make sure that the markets are competitive and that confidence is restored in the markets.

Having said that, we had discussions, we heard also about, should the monitor be monitoring the ITP itself and to what extent? And I just want to caution that I'm always concerned when I'm flying that if the pilot -- if he starts seeing symptoms that are not normal, starts thinking that perhaps what I may do may burn more fuel and I may be reprimanded for that and takes no preventive action until an urgency is there and it might be too late.

We need to caution that operators have the hand

and the throttle the same way as a pilot and they must be able to act without hesitation that maybe the action that they're taking may be affecting the market. At that point keeping the lights on is much more important, we think.

As far as Linda mentioned about differences, and, yes, there are differences between the measures in the different markets. We think that those differences should be maintained. A lot of work has gone into each of them, in the development of them due to specific circumstances in each ISO area. For example, in New York, New York City had very, very specific issues and a lot of work went on for almost a period of six, seven months meeting every week with market participants, the ISO staff, the independent monitor, where all the ideas were vetted, ideas were freely proposed and critiqued and out of that came the comprehensive measures that the Commission approved late May.

We would see it as a tremendous step back if New York is forced to drop this and have to assume some other way -- some other mitigation measures and then have to go back and recode that, take out the other measures from the existing code and recode that.

So in answering your question directly, Mr. Hederman, yes, in New York market participants, independent monitor, and the internal monitoring unit have worked hand-in-hand in the development of the AMP and in the development

of the New York City real time measures. And the experience has been a good one, I think.

MR. HEDERMAN: Thank you. Would either of you gentlemen like to -- yes, go ahead.

MR. HULL: Pacificorp's experience with market monitors, I think I'm safe in saying, has probably been largely limited to the California ISO market monitor. One of the sort of limitations that the CAL ISO market monitor faces is its limited geographic scope. And that fact has been a driver behind an effort that Pacificorp and I think a lot of other western and even northwestern entities are behind is an effort to put in place a market monitor that would have jurisdiction over not only one particular RTO's markets, but the markets of three -- all three western proposed RTOs. And that is the -- that work is being undertaken by the -- steering group of the western interconnection. It's something that the Commission has noted and commented favorably on. And I guess I would just urge that the Commission continue to support that project because we really think that that's going to help empower a market monitor to sort of look beyond the borders of each RTO.

MR. HEDERMAN: Thank you.

MR. STOUT: Getting back to your original question about differences that we observed in various

market monitors, the biggest difference that we've observed is in the process about which they try to resolve an issue that they observe.

In New York and in PJM, we have had very good luck with the market monitor letting us know in case there's a behavioral issue which they felt needed to be addressed, they and they listen to our side of the story about what caused that particular behavior and factor that into their decision as to whether to take it to FERC in the form of a complaint or what other course of action to take.

The California ISO has not, to the best of my knowledge, ever contacted us with an issue like that. And I think that's created a lot of adversity in the way in which those issues are handled. It's something that needs to go through a due process and people who are being accused of things should be given an opportunity to defend themselves and understand what they're being accused of rather than having a press conference announcing what the market monitor has found.

The other comment that I would make, and this is the last comment on that question, is that we have observed a tendency to what I call lack of symmetry on what the market monitor wants to look at. You heard from a number of speakers this morning that you not only have to look at suppliers, but you also have to look at the ISO itself, the

transmission operators, and also the buyers in the market, all those parties have the opportunity to do things to distort the market outcomes.

More importantly, you can't just be looking for high prices in a market. You also have to be looking for abnormally low prices in a market because that can cause a market to fail just as easily as high prices.

MR. HEDERMAN: George.

MR. GOODING: We've put a strawman out there that was part of the package that said, here's things we think the market monitors ought to be looking at. Obviously this includes a lot of data that they're going to have to collect in order to look at these indices.

I guess I would like to have your reaction to those. I think Mr. Stagliano, if I read you correctly before, if we're reacting to California you may think we're looking at maybe too much. I don't know if I read that correct, but I'd like to get a reaction from the participants to see your feelings of the strawman and what's there.

MR. STAGLIANO: Well, I had several reactions to the strawman and also related to the emphasis in the SMD. I believe that in both cases there is overemphasis on the role of the generator. And I want to echo the statements of Steve Balser of this morning as well as my colleague, John,

and urge you to broaden your view of what constitutes the totality of the players in that competitive market.

I would add to the list that's already been laid out, that is the transmission owner, the operational behavior of the ISO, the behavior of the load serving entity, but also remember that in large regions of the country there are players in the market who are not really either jurisdictional or visible market players within an organized market like the CAL ISO. There are large numbers of public power entities, transmission owners, federal utilities that have a role in the market that is not currently monitorable by anyone or by any set of criteria.

There are other regions of the country where the behavior of the market participants is invisible altogether. And yet in those regions that do not have organized ISOs, you have extensive presence of monopoly players who control access to the grid, who control the service quality and the grid and who control the order of dispatch to the extent that one is able to access it.

So our point in this part of the discussion is that all markets should be monitored and all market participants should be at least overseen if not monitored in the absence of jurisdictional authority. Because the interplay among all of the parties is probably greater in the end to the function of competitiveness than it is the

overemphasis on the behavior of the generator.

The generators already got five layers of mitigation in the SMD. And those are the participating agreement, the regional bid cap, the safety net bid cap, the resource adequacy requirement and AMP. In my view and in the objective of the FERC itself, we are looking at a near-term market where most of the transactions are going to be long-term bilateral ones anyway, and the amount that's left over to monitor in the real time and day-ahead spot markets is fairly minimal. So are we building this excessively complicated infrastructure to monitor a significantly minimal part of the market transaction?

MS. KELLY: If I could respond in part to that. First, I actually agree with the last remark that was made. You are setting up a very elaborate mechanism, but I don't see anything in there about monitoring bilaterals which you should be doing.

If you're impose a resource adequacy requirement, you're requiring LSEs to contract forward. You're hoping that a very large percentage of the market will be done in bilaterals instead of the day ahead or the real time and you should be monitoring those markets. So, I agree, that's the case.

As for the discussion about certain players that are not jurisdictional. I've spent a lot of time in the

last two weeks with the proposed SMD tariff. When I read that tariff, I see that every generator who is supposed to be connected with the system must sign a participating generator agreement. That's a term and condition of using the system. I am not, you know -- how shall I say it -- optimistic enough to assume that they're going to say, oh, cooperative municipal generator who are connected to the system need sign those. And we're all going to be in the game together.

In addition, market participants, there's a contract -- as a condition of the contract for market services they're supposed to be cooperating with the data provision in information. All market participants are going to be subject to oversight of the market monitoring unit as I read your rule. I don't have any problems with that. I should know that I haven't seen a lot of end users who are doing perp walks in the last two years here. If there is more oversight of certain sectors of the market, it may be because that's what is merited given what's happened.

MR. HEDERMAN: Linda.

MS. CLARKE: I wasn't going to argue the point. I was going to get more back to what we saw the metrics and how they should serve. We thought that it was a great list to start with. And, you know, it was kind of a large list. And if you think of the amount of data that would be needed

and the resources that would be needed to monitor that data and provide meaningful reports, we thought it would be overburdening to both the FERC staff involved in this as well as the MMUs.

Our thought was that if you had -- if you're looking to do comparisons between the various ISO, you probably want a more core set of metrics. I'm not an economist, I'm an engineer, so I would focus probably more on the operational side than on the economic side. But I think what you're trying to do is compare the benchmarking between the ITPs and look and see what's working and what's not with respect to the standard market design. So I think once that unfolds, you may be able to decide what metrics are needing.

But we think there's not a need for individual -- metrics for individual market behavior. Because I think when you're looking at individual participant behavior assuming SMD goes in with clear definitions of what are those behaviors that you're going to be monitored against and what are the metrics, the MMU is really going to be looking to see whether or not you play by the rules. And when you're playing by the rules, you probably have three types of behavioral mistakes, you know, you have the fat fingering, I input the data wrong, a clear mistake, I messed up. You have the ones that are kind of plain within the

loopholes of the rules and you probably knew you were doing something wrong and that probably needs some more, you know, firmer action from the MOU and then you have the clear, blatant, you broke the rules and you should, you know, perhaps be followed up with some tp of giving the funds back that you acquired through that rule that you broke or possibly going to FERC with it. So, I guess we're tending to think the lesser metrics the better so that you can do comparative results between the ITPs.

MR. O'NEILL: Linda, in your opening comments you said that marginal opportunity costs should include a risk premium and some fixed costs. Now, marginal opportunity costs is necessary to calculate our favorite index of the morning, the Lerner Index. Could you give us some help on how to put risk premium and fixed cost into the marginal opportunity costs?

MS. CLARKE: I told you I'm not an economist. No, but I can tell you that we actually, we have a laundry list of costs that we think and probably most of the generators in this room would think are, you know, that great list. And we are working with both the PJM, MMU and perhaps some outside consultants to try to come up what is reasonable to try to recover through that cost in those bids.

MR. O'NEILL: We are not trying to deny you

recovery of those costs. We're questioning what the marginal opportunity costs are because you get the market clearing price, as you well know --

MS. CLARKE: Right.

MR. O'NEILL: -- which is different from the marginal opportunity costs.

MS. CLARKE: Well, but the marginal opportunity costs, I mean, our assumption, if you are mitigated that a marginal opportunity costs would be the basis upon which you're -- at least in a PJM market structure -- upon which your cost-based offer would be based.

MR. O'NEILL: Right. But not on what you paid? You paid the market clearing price.

MS. CLARKE: As a generator or as a load?

MR. O'NEILL: As a generator.

MS. CLARKE: Right. But as what we received for running that unit in what's conceived as a mitigating --

MR. O'NEILL: That's a special mitigation in PJM.

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MS. CLARKE: That happens a lot to us in PJM right now.

MR. O'NEILL: Well, it's not an SMD.

MR. SASSON: Could I respond to George's question and maybe I can also try to clarify a little bit our position on Dick's question.

As far as the metrics is concerned, the metrics that were in this -- are good. They serve the purpose of a general analysis of the state of the market, the performance of the market. So that's what they really are and they are good for that.

What they are not good for is that they're really not mitigation measures which need to be much, much more specific and surgical. Mitigation measures should not be broad-based and applied indiscriminantly.

This morning the discussion was, once the broad base reveals a problem, you know, what should you do, I think you were asking, should it go back or forward? And that's a key question. But, from the mitigation measures that are applied, day-by-day through the commitment and dispatching programs, it's very important that it be done automatically before the prices are announced so that when prices are announced they are firm and I think market participant deserve to know firm prices at that point.

So I think that the metrics are good by you need mitigation measures that really are not those metrics.

MS. KELLY: If I could just make two short points. First, I would just like to note I share Ken Rose's concerns about opportunity costs that he expressed on the panel this morning. I'm going to defer to him on that point. He's the trained economist, I'm the arts and

sciences major.

But we do have strong concerns about use of opportunity costs. I also hear the panel this morning, discussion about, you know, the generator we always hear about that only has ten hours a year to recover their entire fixed costs because it's a peaking unit, it's expensive, et cetera, et cetera. And I was having a little disconnect there because my understanding of the resource adequacy requirement is that we are supposed to be contracting forward. We are supposed to be trying to cover our peaks and that is supposedly the alternative way of getting money to generators like that so that they don't have to do that and don't have to be the -- unit in that hour and don't have to spike the prices to the point where you all are in hot water with the general trade press. I thought that's what it was all about.

So I do think that when we talk about the recover of costs, we need to think not only, you know, what are the true opportunity costs, we have to think what were the other opportunities they had to recover those costs. If they chose not to contract forward in this new market which the LSEs are going to be required to contract in, or, you know, face being pillared by their state PUCs and being curtailed and whacked with a thousand-dollar-per-megawatt-hour charges, you know, then they chose not to contract in that

market and they should take some risks too.

MR. HULL: I guess the length of the list kind of points out the need for some standardized metrics and probably some standardized reporting to go along with it. Standardizing that should help build confidence in the markets and provide FERC, the Commission, with the tools that it needs. At the same time, I think that we need to preserve flexibility in order to have customized regionable approaches to what the results of those metrics and the results of those -- that reporting indicates. At the same time the MMU is going to need to be able to collect information from all parties and be able to do its job.

MR. STOUT: I think we have to be very careful on which metrics we choose, because getting the wrong metrics can do just as much harm to the credibility of the market as bad behavior in the market. This morning when I listened to one of the panels discussing the various metrics, there seemed to be a general consensus on the use of the competitive benchmark as an approach metric for this market.

I think we have to be very careful about that as a tool of measuring market performance because I think in many cases it produces results which even buyers in the market would agree are unrealistic results.

Let me give you a couple of examples of that. You heard this morning that during 1998 and 1999 when this

benchmark was analyzed in California, you discovered prices that were higher than the competitive benchmark. In other words, prices were too high.

At the same time that that result was being calculated, the California Energy Commission was using a different metric. They were looking at the margin between the actual hourly prices and the fuel cost of a combined cycle generator to determine how much cost recovery that generator could make in the market if it ran every single hour that the price got high enough for it to turn on.

At the same time that the economists using the competitive benchmark technique were concluding that prices in the market were too high, the California Energy Commission was concluding that prices are too low to justify the development of combined cycle projects in California. That's a clearly unrealistic conclusion if you assumed that prices were too high. That's why you have to go back and do a reality check, a sanity check on these benchmarks and these metrics that you use.

Another example that I heard this morning that relates to that same competitive benchmark had to do with if you were to compare California with other regions in the country, they had lower competitive benchmark indices. And California blew out in the year 2000 and 2001.

Well, you have to stop and consider the fact as

was mentioned just a second ago, perhaps in those other markets the participants in those markets were recovering a lot of their costs through a capacity payment. They didn't have to see the price spike as high. They didn't have to bid as aggressively to recover their fixed costs. And it troubles me that the same exact calculation is used in a market with that fixed cost recovery mechanism and a market that doesn't have it and the results are considered to be comparable.

To me that's unrealistic. You should expect prices and conversation benchmark indices to come out higher in a market where you have to recover all of your costs through some sort of energy payment as opposed to a recovery through a fixed payment.

The last comment that echoed something that Linda Clarke said about the overall metrics that are used to monitor the market, I think our real goal should try to be to minimize the amount of behavioral study that has to be done by the market monitor. And the way we do that is not by depending on after-the-fact mechanisms for analyzing how the market did, but by establishing anti-mechanisms that establish clear standards of conduct when people are making their bids. As a generator I want to make as much money as I can in this market, but I want to do it honestly and I want to do it according to the rules. And that's why it's

critically important that we have clear rules that can be applied by our traders when submitting their bids to the market so that we know we're doing the right thing.

Let me give you a real-world example, once again, something I heard mentioned this morning.

If I were to bid virtual load in California right now, following what came out in the so-called Enron memorandums, I'd be probably hung up by the neck. Yet at the same time in the New York ISO they advocate it. They have rules in place that say, you're supposed to be able to do this. And in fact this morning you heard the market monitor say that was a good thing.

It is not clear to a trader in our business where bidding virtual load is a prohibited practice or an accepted practice. We need clarity on issues like that.

Another point that I would like to make is data transparency. I believe that you can get a lot of help in monitoring the market from market participants. If you make aggregate bid data available so that people can see what's happening in the market -- and by "people" I mean participants like myself. Most of the time when someone is gaining the market it's hurting someone else in the market. And it may be hurting me. And if it's hurting me, I'm going to be looking very closely to try and spot what's causing that anomaly.

I would encourage you to consider ways that you can rely on market participants to self police that market and to help identify anomalies that you don't necessarily have to rely on the market monitor to always identify them.

MR. O'NEILL: John, do you have a suggestion for how we should calculate the metrics in markets with and without ICAP payments?

MR. STOUT: Well, Dick, you caught me without a good answer on that particular one. But I will say that the metric that captures both the capacity payment and the energy price contribution towards Dick's costs is the one I described that the California Energy Commission was using where you literally look at what the margin is and you can do this for various heat rates of units, and various capital costs. You can figure out what margin they need to break even over the course of a year. Add into that the capacity payment they received and that gives you an excellent sanity ch. Because that is exactly the sanity check that any project developer will use before advocating that he built a project in a particular region.

MR. O'NEILL: I believe PJM makes that calculation; don't they?

MR. STOUT: I could not answer that. You would have to ask Joe.

MR. STAGLIANO: I too wanted to weigh in on this

issue of the competitive benchmark study that was the subject of this morning's panels. We do have some concerns about how that would work. I mean, as a yearly and a theoretical basis, it's hard for me to believe that one could construct what is referred to as 12-month running average competitive set of crisis for a market that is inherently instantaneously producing prices and that can be referred to, some sort of a straight line of some sort, I suppose, or even a monthly curve against which to judge whether the market is competitive or not.

I don't know of any other commodity market that relies on such a thing in order to determine that the market is competitive. And why is that so as an absence in other markets and why is that the only tool by which to determine competitive behavior in the electric power market?

MR. SASSON: Could I take up that point that Vito made? Yes, I think I agree with him. That's why I said originally that the metrics are good to assess it from a relatively high level but that you need the very specific measures that are looking at the market essentially minute-by-minute or on a day-ahead market day-by-day.

Having said that, I think it's also important to note that we should resist the argument that some degree of market abuse is necessary to keep generators in business. And we've heard that in different ways being said in order

to recover some of the fixed costs you need some of it. And I think you mentioned it a while ago, which I agree, that there is a margin between the clearing price and your bid that does go into the support of your long-term costs, fixed costs, if your bid really reflects your marginal costs. And I think that's the implication and the resource adequacy in the long-term should do the rest.

In New York I think we also deal with the fundamental issue of can scarcity pricing and prevention of market abuse co-exist? It's an interesting question because a lot of people say no, it cannot exist -- co-exist. I think it does co-exist because in the mitigation measures the reference prices are not constant and they're not preset. In most cases they're set by being an average of accepted bids over a period of time where the market was competitive. And that means then that voluntarily a seller has said, I will put forward this bid and if this bid is accepted when the market was competitive, that's the best measure of a -- not his costs, not the seller's costs, but the seller's performance of his interests and his intent in performing in the market.

In New York we also have other things. For example, a seller may indicate to the ISO and Steve Balser mentioned this, this morning -- can call up the ISO and say, I've got very special circumstances today. I've got some

physical problems today and this is going to result in my bids being higher today. If this is accepted by ISO, that bid is not subject then to the same mitigation measures. So there has to be flexibility.

Also, the reference prices can reflect portions of the output of a unit where it can be very costly if, for example, if a unit goes beyond its normal upper limit into what is normally called its emergency area. It can produce energy if needed. But at significant risk and cost to the unit. It is fair for his reference price to be very high and his bid to reflect that.

The last point I want to make on this is that with a thousand dollar bid cap, a lot of people think that it's a price cap. And there is a fundamental difference and I think the Commission has made that difference clearly that with L&P and \$1,000 bid cap you can get prices that are above a thousand dollars. And that's very important. It's not a price cap, it's only a bid cap.

MR. O'NEILL: Can I ask how these metrics would change or how your feelings about these metrics would change if, for example, Susan's customers were actually bidding into the market?

MS. KELLY: Aren't they?

MR. O'NEILL: As far as I know they're not.

MS. KELLY: My point was, we're going to have to

be customers, at least to the extent of imbalanced service we're going to have to be taking --

MR. O'NEILL: So you're going to be bidding into the market?

MS. KELLY: Well, we'll be bidding as purchasers.

MR. O'NEILL: Good.

MS. KELLY: Everybody puts in bids.

MR. O'NEILL: Not now.

MS. KELLY: No, I understand that. But my point is that we will have to somehow -- we'll be taking power out of that market because we ought to be, at least to the extent of our imbalances, maybe to a larger extent. However, with the resource adequacy requirement that you have imposed on LSEs, you are going to be making us contract forward, in my view, and that will take us out of the market to that extent then.

MR. O'NEILL: But when you're in the spot market you'll be telling us how much you're willing to pay for power?

MS. KELLY: Yeah.

MR. O'NEILL: Okay.

MS. KELLY: May I go back to a couple points that I really wanted to get to from earlier conversations. I feel it is important that somebody on this panel comes to the defense of the competitive benchmark test. I don't

think anybody else is necessarily going to do it, so I feel like it has to be me. Just as Joe Bowring defended the lowly HHI, that it has a role, I think a competitive benchmark also has a role. It's not the only tool. It's one of a number of tools. But let me just say that there are many people -- sure everybody in this room knows the wisdom and the magic of markets, but there's a lot of people out here now who are seriously questioning whether you should move the SMD and whether it's going to produce just and reasonable prices. That's a fact.

The whole theory that this is predicated on is that people will bid their marginal costs. That's what the economic theory is, that's what you all are counting on. If you can't have any measure of whether that's actually occurring or if it's even close to actually occurring then you're flying blind. So I think you need to be looking at, at least one among a number of other tests. And I think you need to have that in your analysis toolbox.

MR. HEDERMAN: John.

MR. STOUT: If I could add a comment with respect to the question that Dick asked just a moment ago about bidding the load into the system. I think that's the most critical element of actually mitigating the mitigation.

Until we get demand response in the market, including the real-time market, I think it's almost

impossible for a rational regulator to lift the damage control price cap or even some sort of ongoing AMP-type program, for example, that you've got in place.

So to the extent that we are trying to look at the vision of the end state of this market, that is an absolutely essential element that clearly needs to have a lot of emphasis in SMD and we have to get in place and we will always have these kind of price mitigation measures and the extensive monitoring that's associated with those.

And if I could add a comment about something that Mayer said just a second ago. When I said I felt like the market needed clarity on the rules, one of the most important things that we need clarity on is knowing that when we submit a bid that it's a fair bid and it's not going to be mitigated a year or two after the fact. We need that certainty in order to do business. It's not sustainable for us to re-experience California two years from now where we've got to go back to PJM, for example, and try to unwind the market and completely undo things. That's why I think you need to consider the fact that you have recommended an AMP-type mitigation program as an option and perhaps consider it as a requirement. But make that AMP mitigation program a safe harbor such that if someone passes the test, whatever that test ultimately turns out to be, they have a certainty that their bid is not going to be ruled later to be

an inappropriate bid and that they will not have to go back a year or two later and start trying to calculate refunds off of it.

MR. O'NEILL: And I believe in Mayer's handout the AMP was exercised zero times this past summer.

MR. SASSON: That's right, Richard. A lot of people in the country have not seen the AMP and don't have an AMP, so they're afraid of the AMP.

[Laughter.]

MR. SASSON: What's he going to do to me?

MS. KELLY: Learn to love you.

MR. SASSON: This thing called AMP.

Well, in New York the AMP had zero times this summer, so I think it did its job. It's all mitigation measures, it's a deterrent and the market behaved correctly. Bill Hederman's group is also being called the "cop on the beat." And that cop on the beat is always needed even if there's no crime. It needs to be there as a deterrent for the market.

COMMISSIONER MASSEY: If I can just comment, John. I agree that a two-year old refund case is the worst way to do this. And we ought to somehow build into SMD enough customer protections or something, enough certainty for you so that we don't have to go through this again. And it seems to me that that's a goal we are trying to achieve.

And just looking at it from my perspective, I think what we -- we can't get SMD done without significant customer protections built into it. It just isn't going to happen unless that's a part of it.

But the question is, how do we balance that with enough upside potential so that sellers want to be in the business and want to enter and want to build generation. And it seems to me that delicate balance is really what we're all talking about here. And I know there's no magic formula, that's what benchmarking is all about, to try to come to come to some understanding of what that delicate balance is, it seems to me. But I'm looking for insight on that point. If we overprotect the market, John Stout is not going to want to enter it. If we don't provide enough protection to the market, SMD is not going to happen, politically we just can't get it done because there won't be enough support for it.

I know that's a bigger subject, but that's what is on my mind as I listen to these panels today. What is that balance between customer protection and some opportunity for sellers in the market to recover their marginal costs, pay their capacity costs and make a reasonable profit?

MR. STAGLIANO: I think that is actually at the core of what kind of edifice should be built. And to me the

issue is in the face in which we are trying to achieve the objectives that I think are common.

The need for all of this mitigative measures, I think, are partly political in order to safeguard the interests of the consumer under the current circumstances, but they're also on a mission of sort that we're not quite able yet to create markets that are so competitive that they do not need all of this mitigation in order to build confidence. So I would divide the issue into two phases, the initial phase of SMD in connotation where all of these mitigations are probably in need of acceptance by everyone into the market and then a later phase which ought to be built in the first one where market functions are more clearly in play with one another.

And the key to me on that is the extent to which supply meets demand directly, not through second parties, not through third parties, not through the ISO, but directly. So that the competitive forces that are driving other markets, the natural gas one, the oil, the every other commodity can be brought to bear also on the electric power side. They are not now and the key is that demand function that is still missing from this equation.

So the mitigations that are proposed in the paper and in SMD to me are a second best solution and I will be happy if we could agree that the end state that we seek is

not a police state, but a competitive market.

MR. SASSON: Commissioner Massey, my views are radically different from Vito's and we just see it differently.

We think that the measures in the SMD NOPR are the right measures, provide the right level of protection as you indicated that is needed. I'll make the statement that both over and under mitigation is bad for SMD. And I think you were referring to over mitigation and how it may affect sellers, under mitigation which affects buyers is equally as bad. And so we need a fair level in which neither happens.

But your question also was, how do we do this in a way that we don't have such a heavy hand in the market and at the same time, how do we do it such that we promote more competition. And I think I would urge people to look at the measures that were developed from New York City because one of the key aspects of those measures is that they are self-adapting to the amount of transmission generation or demand response that exists.

If someone builds generation, the thresholds that apply to the test for mitigation become wider, automatically, without anyone having to do anything without anybody having to come to the Commission with a new formula. They are self-adapting thresholds and I think that's one way of looking at it, that really it's in the market

participants' hands. If there's too much congestion and transmission is built, the thresholds get wider and so the mitigation becomes less and less. If demand response comes in stronger, again, there would be less congestion and the thresholds will be less and less.

So you have that adapting nature. And I think that if anybody looks at New York City with its captivating load pockets, in some of those load pockets there may be three or four buses and a couple of players only. The need for mitigation is certainly not political. It's a reality.

Is it a flaw in the market? Can the market just fix it over night? No.

I think it's important to realize that New York City has the highest reliability of any system in the whole world. It's needed because of New York City. However, it has the load pockets and it has been designed over many, many years with load pockets to maintain reliability. It wasn't designed to support a market.

Now that we are superimposing a market on it, there needs to be a some adaptation and some that we heard this morning through discussion of what an auto merit is. In New York City there were a lot of units that the New York ISO had to say, you run not because the market is saying that you're conversation, but that you must run to meet reliability. Why was this happening? I think the models

were deficient. We worked very, very hard over the last year to improve the models so now instead of units being called to operate out of merit, the models will determine that, yes, it's economically for your run to meet reliability and they do run. So the number of instances of the so-called "out of merit" has been reduced greatly in New York City.

So you have -- models have to be good and have to adapt to the circumstances. But I really think that you need the measures and the measures need to be self-adapting.

MS. KELLY: If I could say two things, and I've been waiting for a while. The first is, I need to go back to Dick because I misunderstood his question completely. So I want to just clear that up and then address what you said, but I was trying to do it in the order in which these issues came up.

I misunderstood you. You're talking about whether we would bid in a demand response bid. Is that your question?

MR. O'NEILL: Yes.

MS. KELLY: Okay. Actually, believe it or not, electric coops have been in the forefront of developing demand programs. We've spent a lot of money on water heaters and, you know, trying to do various things that would allow us to reduce our load at peak. Whether we bid

those in or not is a question I believe of whether we need them to manage our own system. If we have to do it to manage the swings in demand, and, you know, on our distribution systems, then we will not be bidding them into the market. But if we feel we can, and that's economically advantageous to us, yes, we will.

I am concerned interestingly enough that it appears in the way the tariff has been written that we may be required to disclose all our demand response programs to the ITP in our network service requests and that somehow might imply that we're going to be forced to bid them in whether we want to use them for our own system or whether we want to use them for the wholesale market. So I just wanted to point out to you is that obviously it will be our decision whether we can if we can do it and it's economically, you know, going to be beneficial to our members to do it, we will.

MR. O'NEILL: I think you'll just be committing to bid into the market and not to tell us all the gory details.

MS. KELLY: Well, I'm looking at the tariff you guys bid and we're supposed to --

MR. O'NEILL: You may have to tell the ITP what those programs are so it can actually operate, you know, according to your instructions.

MS. KELLY: But, anyway, I just wanted to make sure I didn't blow you off. I want you to understand what my views are.

MR. O'NEILL: I was very happy with your first answer.

[Laughter.]

MS. KELLY: But the more I thought about it, I realized it was an answer to a different question. So I didn't -- but to get to Commissioner Massey's bigger, bolder, and very important point, you're absolutely correct that you have to include the right amount of menthol in here, enough to get this thing done, not enough to destroy the incentive to build new generation.

We, of course, would also like to see new generation. As I started out by saying, we're 50 percent short. And, you know, coops have been pushing for competitive wholesale markets for ten years and pushing for open access. One of the reasons was we wanted a broader universe of suppliers. If we get to the end of all of this and it's the same old players and actually fewer players than two years ago, we haven't advanced the ball. So I agree with you.

The sad news I have to give to you is even if standard market design goes down, you still have to deal with this because you've got your market-based rate dockets

outstanding.

And one of the things that I think really needs to be tied in with this, when you're talking about market mitigation is what are the standards upon which market-based rate authority can be granted in the first instance, before you get to what they bid in these markets. So unfortunately, you're going to have to deal with those questions. And I think it is important as I listened to this morning's panel to say, you know, that somewhere those two inquiries have to merge. You know, what are you going to put in a participating generator agreement that's the most important market mitigation tool you have in the box you set out in this NOPR in part is going to be a function of what are they allowed to bid under their market-based rate authorities. And I think there is going to have to be some point where those paths converge and there has to be an analysis that's done not only of the ITP's market, but what are you going to do in terms of market-based rate authority.

So I just wanted to say, you've put your finger on a very important and difficult issue. But you're going to face it regardless of what happens to this NOPR.

MS. CLARKE: I just wanted to respond to what you said about protecting the consumer as well as encouraging new development. We are certainly all for both of those. One of the things that we noticed might be missing from the

list of metrics was some type of measurement to deal with new entry.

We heard this morning about you need to be a little more forwardlooking in some of the indices perhaps and we think that may be one that either was overlooked or just not included.

The other thing I wanted to follow up on, and it had to do kind of with Susan's response was she wasn't sure what we were talking about when we said bidding into the day-ahead market versus putting in a demand response. I think just as there's a lot of issues with respect to market participants understanding how to play in these new markets and what's going to be considered, you know, violations of these various behaviors, I think it's important to realize something that Kristin pointed out this morning that coming from an ISO and now going to a trading organization it's amazing the way they do business. And I think it's important for both ISO staff and perhaps FERC staff to understand the power trading business and the day-to-day things that go on in terms of managing large portfolios of generation or large load obligations as some folks on these panels have.

I think understanding both sides, you know, will provide better metrics and allow you to have more insight into how we do business. And I know that we've been

approached by a couple of the ISOs to allow their staff to come down to our trade floor and observe operations. And I think they found it beneficial to be able to see the way things move from, you know, forward markets, you know, two years out, all the way down to the hourly desk where they're actually, you know, trading the product and taking it physical. So just some comments.

MR. O'NEILL: I would like to say that I agree completely that measuring entry conditions is probably a very important part of these markets because the theory says, if there's good entry conditions, you know, life is wonderful, the markets are healthy.

If you could help us by suggesting metrics by which we could measure entry conditions, like how long does it take to get a plant sited, how long does it take to get all of the approvals, you know, in various markets, I mean, I think that could be quite beneficial. Maybe even if you could tallying the potential for sites in certain markets.

MR. STOUT: One comment I would like to add here before we run out of time that a metric that hasn't been touched on has to do with the fact that you have local market power issues in nearly every market. It's always going to be there. You're going to have load pockets.

When you get into an L&P environment you can start to measure price differences between the nodes which

are, I think, a metric for how frequently the transmission system starts to get constrained. And you can also measure the number of times that a generator is told to run out of merit.

And I think one of the things a market monitor needs to watch for is the frequency with which that happens and whether it starts to grow because it could be an early warning sign that the transmission owner is not developing the transmission grid infrastructure necessary to support an economic market in that area.

MR. O'NEILL: You know, the SMD rule propose merchant entry into the transmission business.

MR. STOUT: And we agree 100 percent with that.

MR. SASSON: Could I comment?

MR. O'NEILL: Yes.

MR. SASSON: I fully agree with your response that this is a merchant entry. New York City, which is where I work, so I know about New York City, is frequently congested. And not only New York City as a whole, but load pockets inside New York City, should transmission be built immediately to relieve that.

Well, I said a while ago that we enjoy the highest degree of reliability in the system. So is it needed for reliability? No. So is it needed to reduce congestion perhaps? Well, that, I agree with you, is not a

function of a transmission -- a regulated transmission provider, but it's a function of building for merchant conditions. And that is a very different -- so I'm just making a difference between building for reliability and building for economics. One should not assume that the two are the same.

One other point I would like to make, the point was made earlier how important bilaterals are and that the market should have a high degree of bilaterals. In New York and I think David Patton is here, so he can correct me if I'm wrong, it's roughly about 50/50, bilaterals and spot market, more or less; 60/40; 45/40. Okay.

But there is a significant amount of spot market between day-ahead and real time and bilateral.

What I'm saying is, you need the spot market so that there is price discovery for bilaterals. If there's no spot market how can bilaterals happen? How do people know what is the right amount for bilaterals. So there needs to be both. And what are the concerns in the SMD NOPR under resource adequacy is that if the market is forced through the rules to move to almost 90 or 100 percent bilateral, you would lose this price discovery that is essential for bilaterals to work.

MR. O'NEILL: I don't know why -- I mean, everybody -- you could be cover 100 percent by bilaterals,

and still be bidding into the market because you could be seeking out a better deal, even though you're already hedged, you could be seeking a better deal than your current contract. So you could -- it's not irrational to be fully hedged in the bilateral market and to be playing in the spot.

MR. SASSON: That is correct. But it's a dangerous game if you are about 100 percent of your needs and on a day-ahead basis you try to buy some more and you end up then having to sell some of it in the real time market at a loss.

So it is a dangerous game -- it could be a dangerous game.

MR. O'NEILL: But a forward contract with a strike price --

MR. SASSON: Yes.

MR. O'NEILL: -- you may very well forego that if the market is clearing under the strike price. So you could be fully hedged and be in the bilateral --

MR. SASSON: That is correct.

MR. O'NEILL: -- be in the spot market.

MR. SASSON: That is correct. I was making the point that you need both to be healthy.

COMMISSIONER MASSEY: Does it trouble you at all that the New York market is 50/50?

MR. SASSON: Not really, Commissioner Massey, because we also have the equivalent of the resource adequacy which is the capacity market. So it would trouble me from a reliability point of view and because we have a capacity market and we know what generation is going to be there to keep the lights on. I'm not troubled by it.

I don't know if I addressed your concern, but I tried to.

MS. KELLY: I feel when we talk about barriers to entry, we cannot help but talk about the cost of new transmission construction associated -- network upgrades. I'm not talking about specific facilities for that generator to get them to the grid, but associated network upgrades.

It's a huge barrier to entry if you're being told that, well, gee, in order to put your unit on the system you're going to have to pay 20 million and you're going to get CRRs which, you know, that's a financial gamble, frankly. And I disagree, and I don't want it to go unsaid, that, the ITP should only be building, "reliability additions." My view is, their role is broader than that. They should be building transmission expansions that are needed to serve load in the region. Whether it's denominated as economic or reliability and especially if it will have the side effect of relieving load pockets and allowing people to participate more broadly in regional

generation markets.

MR. STAGLIANO: Now there is something for which Susan and I can agree entirely.

MR. O'NEILL: Can I ask Susan a question?

MS. KELLY: Yes.

MR. O'NEILL: Should the jet transmission that is being billed to serve load in the region be paid for by the load in the region?

MS. KELLY: When you build a transmission addition in the region, we can have a lot of endless discussions about who benefits and who should pay. I understand there's a lot of pressure right now on the FERC in political circles about concerns especially in the southeast about so-called "generation farms"; you know, that these people are building generation in the southeast and there are pipelines, they are sending all that generation to remote regions and we, the local region, should not have to pay for that. Therefore, that should be participant funded, they should pay for everything.

If it's going totally out of the ITP's footprint, then I can see a logic for that. But if it's benefitting load in the ITP's footprint, then my view is, rather than fighting for two years over who actually, "benefits from this"; who benefits from the expansion of Path 15? A lot of people benefit from it. That that should just be rolled in

and we should go on with life because the next person's addition is going to be rolled in too.

Over time I think that will avoid a lot of fights. It will get transmission built. And frankly we are very much suffering from lack of transmission infrastructure.

MR. STAGLIANO: Another thing we can agree on. Actually, as you know, most of the network upgrades that have happened in the last ten years have actually been financed by the new market participants who interconnected all this new generation that came on board in exchange, of course, for credits on that system.

I would argue that it is nearly impossible to fix who the beneficiaries are of a network upgrade. Because the flows are not static. They are dynamic. Some days, some group of loads will get benefits, but one year from now it may be an entirely different group of people.

So I think that it is a sterile argument about who should bear the responsibility for payment, especially in the absence of the credits with which the system has been upgraded so far.

I wanted to get on another topic, if I might, which is a structural one rather. And it's been mentioned a couple of times this morning and that is to what extent does each market monitoring unit that is associated with an ISO

really have the true view of the entire market. One would argue that in the west, for example, where the interregional flows are so extensive that a market monitoring unit that would be focused on transmission in California would be missing at least 25 to 30 percent of the market outside of it. So the question is, how to get that bigger picture in front of all the people who need to see it.

The recent initiative, as you know, on the way to create a regional market monitoring unit that is composed of representatives from the future three ISOs. Calpine and many others have been participating in that effort.

But in thinking further about it, we wanted to present another alternative to you for consideration and that is that the interregional market monitoring capability maybe should not go to an independent market monitoring unit at all, but should go to a FERC staffed office that will be present in that region for purposes that would go beyond merely overseeing the market monitoring that takes place anyway, but for the broader view that I mentioned earlier. For a broader view of the entire system and all of the market players in it and for a real-time sense of experience of how the system really works and how the market participants really interact.

The presence of the FERC itself in that role and in that region I think would link it much more closely to

that conference building sort of objective that we all collectively have and there may not need to be all that many such offices. Maybe one for the entire west; maybe one for the south; maybe one for the north and that would suffice to cover not only current and emerging ISO activity, but also regions where activities are much slower -- but where market monitoring is just as useful in terms of determining how equitable the access is, whether the dispatch order that comes out of the control areas is truly economic. There is enough work to do in other words for the staff to oversee the structures even in the absence of operating ISOs.

So our proposal will be that you might consider a FERC staff presence in the regions as the supra regional MMU for those regions.

MR. O'NEILL: When you say "in the region" do you mean in the ISO on the ISO trading floor or on the ISO dispatch floor? Because I don't know where to send them in the region so that they can observe trading.

MR. STAGLIANO: Well, I'm not sure that it's trading all that needs to be observed. And I don't think that it's necessary to be on the control area floor in order to obtain all of the data that would be necessary for you to satisfy yourself that things are going okay in that particular ISO.

You could have an office that overlooks and seeks

information and the broader interactions and transactions that take place and calculations of ATC on planning for expansion effort, on the role the non-jurisdictional utilities play in the day-to-day operation of that particular market. So, the office could be independent, it could be self sustaining and then linked in whatever way you would find it useful to the entire structure of that entire marketplace.

MR. HULL: If I might comment on that briefly. I guess the FERC oversight of the three RTO market monitoring units in the west, that would be the CAL-ISO, then RTO, RTO-West and West-Connect, that's basically the default. FERC will oversee the operation of those market monitoring units. To the extent FERC wants to take a more active role in being in the region looking at what's going on, I think that most market participants would welcome that sort of effort.

I guess I would just say though, I don't think it has to be an either/or sort of situation. I believe that the Commission can take an active role, staffing as close to the region as it wishes, but at the same time an umbrella market monitoring unit would have certain advantages. Those advantages are the advantages that drive the Commission to put in place market monitoring units at the RTOs to begin with. It has limited resources and self-monitoring markets are by many people viewed as probably the best kind.

I guess in summary I would just say that I don't think you have to choose between a west-wide market monitoring unit and the Commission sending staff out there. I think both can co-exist.

MR. HEDERMAN: Just to clarify, we are building a universal market monitoring unit here and pretty far along in that and we have also placed two people on site in California as of October 1. And so we are pursuing both of those options. And we view that California effort as a pilot for potentially doing it elsewhere.

MR. STAGLIANO: But if I might, actually, I was trying to make the point that it would be useful to go beyond the monitoring of the actual markets.

MR. HEDERMAN: Yes.

MR. STAGLIANO: And to monitor the system in its broader -- including the operational behavior of all the control centers in order to give you a sense of what the dynamics are that actually drive the market to be what it is.

MR. HEDERMAN: Yes. And I would say that in our conversations with market monitors from the ISOs they've made that point that that's an important element to what we need to do which is get out there and get to know the people that are operating the system and gain their confidence to help us understand.

Mayer.

MR. SASSON: In today's electronic age and in answer also to Richard's point, they can be here and still be physically watching a sector of the country. And especially with your statement now that they can visit, also all ISOs there doesn't need to be another office somewhere.

I would like to make just one other point. The discussion we are having about building transmission to reduce congestion. I want to make the point that to reduce congestion there is always two alternatives. Transmission is only one of them. Building generation is the other one.

There needs to be a balance between the two as far as incentives are concerned. If we somehow provide more incentives for the building of transmission we are going to hurt reliability because transmission doesn't keep the lights on; generation does.

Also, it is not fair to generator owners that want to develop generation that although a southern transmission was given an upper hand and their project which is perfectly sound is no longer sound economically because transmission was built.

So it's not an easy question. And I don't know the answer before I'm asked what is the answer to that.

MR. HULL: If I could just comment on the siding of plants and the building of transmission a little bit. I

think that you have to make sure that you continue to send the right signals to make sure the plants not only -- the balance between transmission and generation building is not only right but also that plants are sited in an appropriate and economic way. And right now the Commission has set things up so that that signal is sent by the cost of the network upgrades. And I wouldn't say that I'm totally opposed to other ways of paying for network upgrades, but you have to preserve somehow that signal so that we don't end up with inefficiently sited plants.

MS. KELLY: I would just like to say that, you know, obviously one of things that we have been pushing, "we" NRECA, has been a strong regional transmission planning process to consider all alternatives. Please don't think that, you know, we're pro-transmission in every instance. Although I will say, add a generator and load pocket and you now have a another generator with market power and a load pocket. Add transmission you eliminate the pockets. I have feelings about that, but I think it should be subject to a rigorous planning process to determine the proper thing. But I would like to get the plug in before this panel is over, and this goes back to your question about do you need to be in the regions. If there's adequate data transparency, you're absolutely right. If you have access to all the data.

I would go further than that, though. I would say that is important for market participants to have access to the data, getting back to Commissioner Massey's point about rebuilding trust in the markets. The first panel this morning there was some discussion about, you know, only we keep the model, only we run the model, the rest of you trust us that the model has been run correctly. Uh-uh. That's not going to work in this environment.

MR. SASSON: Susan, I think in the load pocket you reduce the market power issues equally by building transmission or generation. If you have more competition you have less and less market power issue.

If you build transmission you also bring in more competition. So actually it works both --

MS. KELLY: We can have that discussion off line.

COMMISSIONER MASSEY: And the theory of standard market design is there's a third alternative too which is robust demand response.

MR. SASSON: Absolutely.

MR. HEDERMAN: Any other questions from the panel?

MR. SASSON: You had also asked for this panel to comment on what degree should it be reporting to FERC or to the ITP Board and in that regards and I'm sure others want to talk about that. I just wanted to mention that I think

the way the NOPR has to this right that it should report to both. That it doesn't become a problem in reporting to both. That the independent market monitor can be independent that way. That if the ITP tries to stifle them in any way he also reports to FERC and FERC will intervene, I'm sure.

But it's very, very important that he reports to the board so that we are going to hold those boards accountable for the market and for reliability.

If we don't allow a very important source of information and analysis to reach the board directly we are then removing from the board one of the very important inputs for them to act. So it's very important, I think, that the monitor reports directly to the board in addition to reporting to FERC. I wanted to make that point. Thank you.

MS. KELLY: If I may just make one other point. I had expected we were going to spend a lot of time on this panel based on the questions you had on the agenda about the relative merits and weight this should be given to monitoring markets versus individual participants.

And I heard some discussion this morning about, well, look at the overall indices and only if those indices present a problem then do you start looking at individual market participants and I would have to respectfully

disagree with that. I think there's a place for both because markets are made up of individual market participants. It's like a Serrat painting, each point is a market participant. That's what makes up the market.

And you can have behavior that's going on that's harming third parties that's pretty subtle. We have one member of NRECA who was in an organized market where there was some gaming behavior. I don't want to call it "gaming behavior" there was some interesting strategic behavior taking place this summer which the market monitor did figure out and put a stop to after a period of time. However, in the meantime the FTRs that were held by the coop reversed because the flows on the system reversed. And, guess what, they started paying out money for congestion where they had not expected to. Nobody is coming around to give that back to them.

So, I think it's very important that we do look at individual market behavior and that we do try and catch it early before it causes third parties to pay out money. That's just not right.

So I would urge you to spend a substantial amount of time on spotchecking and looking at bilateral contracts to ensure that they seem to be within the realm of reasonableness. You should not just, you know, look at the general overall indices and assume that everything is fine.

MR. HEDERMAN: Any other points that the panel members would like to make?

MS. CLARKE: I think we would just like to summarize saying we saw a slightly different division of responsibilities. We thought unless you saw that the market monitor was exceeding their discretion or not performing sufficiently that the market monitor should be monitoring the RTO and its market participants and that the FERC should basically be responsible for establishing the market monitor responsibilities, coordinate the market monitoring activities between the different RTOs and then finally establishing the due process activities. And that the MMU should not necessarily be involved in the enforcement activities but that would be a role of FERC. So I think we have a slightly different spin on the roles and responsibilities.

COMMISSIONER MASSEY: I have a question for Sue Kelly. The theory of should market design or one of the theories is that a well-functioning spot market will discipline prices in the forward contract market. Do you disagree with that or are you just saying that still more needs to be done to ensure that there's no market power exercised in forward contract markets?

MS. KELLY: All other things being equal, if you have buyers and sellers that have a choice of contracting in

the day ahead of real time markets or in forward markets that may be true that if there's mitigation the day ahead in real time, then people might say, well, I'm not going to purchase in the forward market where they can exercise market power, I'll wait and do it in the real time market where they're mitigated.

But you have changed the balance by your resource adequacy requirement. In my view you are, you know, strongly encouraging, you know, negatively reinforcing LSEs that do not contract sufficiently forward in the forward market. I think that, you know, if you are going to be pushing that market to the extent you are, then you're responsibility is also to monitor.

MR. MEAD: Can I follow up up on that for a second? To the extent that we need to monitor the bilateral markets, what sort of metrics would you look at and what are sort of the thresholds above which you would be concerned?

MS. KELLY: Well, first of all, you could actually require the filing of those contracts. I realize that's a radical thought, but if you know what's in them, then you have an idea of what, you know, what looks like it might not pass the smell test. Again, I'm the arts and science major, somebody like Frank Walock would be a lot better suited to give you metrics. But I think you need to compare what the prices that are in the spot and day ahead

markets, assuming those are sound, compare that to the prices under the forward contracts and see if there's, you know, enough difference in there that there might be some indication that somebody had to contract forward and therefore was subjected to some market power.

I'm especially concerned about this in load pockets. Because the resource adequacy requirement contains the deliverability to a load requirement. In other words, you don't have to just be able to deliver this resource to the ITP for its use, you have to show you can deliver it to your load. So I think that in some cases may give an opportunity for exercise of market power in a forward contract and I would hope that the presence of a mobile CR clause in that contract would not be dispositive.

MR. HULL: I would just say I hope that that kind of scrutiny would apply equally to both jurisdictional and nonjurisdictional MEs entering into bilateral contracts.

MR. STAGLIANO: Actually, I don't know what happens to the sanctity of contracts itself. If every contract that is negotiated by two adult thinking parties need to be subject to constant review and revision, what is the point of the contract in that case.

MS. CLARKE: Yes, I think Exelon's position is we do not believe that our bilateral contracts or the management of our portfolio and the strategy that we use to

manage that -- that is megawatts, are under the auspices of the MMU.

MR. STOUT: I guess I would like to add that the design that you structured for your reliability adequacy market by making it three years forward, you've incorporated provision that allows new entry to participate in that process. And that creates a lack of market power by any incumbent generator which I think makes that market much more competitive and should help to mitigate the concern that there is going to be market power exercised in the capacity market.

MR. GRAMLICH: Could I just follow up with Linda and John? I heard you both say now that perhaps bilateral market monitoring wasn't such a hot idea for the market monitors, but I heard you say earlier that the net revenue analysis that certain ISOs like PJM in New England conduct and which I guess the California Energy Commission conducted is a critical market power indicator. Really what the important question is going forward is, are the prices in these markets, the collective set of prices from capacity markets, energy markets, reserves markets, et cetera, do those provide a sufficient long-run incentive for entry so that we can get out of the boom bust and provide a stable climate here.

Now, if the ICAP market takes on more of a

bilateral nature, then we're talking about a lot of the capacity payments being in a bilateral market. Now, of course, this can go different ways and perhaps in different regions, but it strikes me, if we're advocating the net revenue analysis in this kind of long-term entry measure, then we also need to be looking at and the market monitors and FERC could look at the long-term capacity prices in those contracts.

MS. CLARKE: I was just going to say I think there are several concerns of market participants with respect to the SMD NOPR section on reserve adequacy and that's probably another whole day because that's a very controversial subject.

And there are several proposals being developed by coalitions that are looking at forward auctions and things of that nature where some of the issues with the NOPR would be addressed. But I do think you have to look at the entire thing. I'm not saying that to engage in some type of auction mechanism isn't a part of a solution. That may not necessarily be in the SMD right now. So we would see purely a bilateral market, per se.

MR. SASSON: Our concern on that point is that on the resource adequacy that it needs to be long-term for all the reasons you mentioned is the penalties that are associated with it for an LSE that has not been able or

unwilling to secure that long-range commitment. Because if you consider that there's also retail access like there is in New York, the penalties become totally unworkable.

If an LSE in New York City has various customers in building on one street is apartment 10A and another street is 20B the penalty of being able to not serve those two apartments in New York City is totally unworkable.

So we need to rethink -- we suggest that we need to rethink a little bit the consideration of retail access, the existence of retail access as part of the SMD.

MS. KELLY: I would just only note in closing that that the Federal Power Act requires just and reasonable rates. And if you're hoping to have 85 or 90 percent of your contracts in the forward bilateral market, you should at least know what those contracts say.

The other thing was, I attended a conference on market monitoring yesterday that was put on by PLATS and it was interesting to hear analysts say, you know, the electric power industry seems to think that it can not give out data that a lot of other industries just give out. Why are you different? And I would just close with that.

MR. HEDERMAN: Well, thank you very much. This has been another lively panel. If anybody has remarks they would like to elaborate on, please feel free to do so on paper and get it in to us within 15 days.

Thank you very much.

Let's prepare for the last panel of the day.

#### PANEL V CONSUMERS AND STATE REPRESENTATIVES

MR. HEDERMAN: Panel number five is a group from the state regulatory and consumer advocacy side as well as Consumer Federation of America. We appreciate your patience and we hope that you've been able to listen to a lot of what you've heard so far today and look forward to your reaction to that.

If you could first briefly introduce yourselves for the benefit of the audience and our panel here. Mr. Stojic.

MR. STOJIC: Thank you. My name is George Stojic and I work on the staff of the Michigan Public Service Commission on behalf of the Michigan Public Service Commission. Thank you for inviting us to participate today.

I found both the strawman proposal to be comprehensive and thoughtful. I was happy to see it. I thought you got some real good suggestions on it for today. My reactions I am very supportive of the idea of the competitive benchmark. We heard a lot about that this morning. I think it goes to the heart of the matter here.

The heart of the matter is whether or not we will get a competitive result out of the model. We believe that markets will, in fact, prove to be efficient over time and

we want a demonstration of that and I think the competitive benchmark does that for us.

Again, I agree with the idea of the pivotal supplier index as a structural measure as opposed to the HHI index. Another point I think that I'm supportive of and I've got a very positive reaction to is the idea of benchmarking conduct. I thought that was a real good idea.

Some of the speakers, especially on the first panel, tended to overlook, I think, conduct as an indicator of potential market power abuse. And I think I'm supportive of the idea of looking at that. Also, the discussion of independence. I guess this is one area that I probably didn't see, something that I wanted to see on behalf of the State Commissions. I think independence, of course, is critical for market monitor and I think it needs to report both to the FERC and the independent board of an RTO. But, also, I would like to see a role for the regional state advisory committees and I would like to see the market monitor report to that RSAC.

I think that the states ought to have access to the information that the market monitor uses and has access to. So, essentially, aside from overlooking the rolls for the state, I guess, in market monitoring I had a very favorable reaction to today's discussions.

MR. HEDERMAN: Thank you. Mark Reeder.

MR. REEDER: Let me ask for a clarification. Did you want an initial reaction right now?

MR. HEDERMAN: Well, you could -- I am happy to take a reaction of about that length. But if you would like to just introduce yourself and then we'll dig in some more. We'll get around to your comments one way or the other. So do what you feel like.

MR. REEDER: All right. I'm Mark Reeder. I'm chief of the regulatory economics section at the New York Public Service Commission. I'll do a subset of my comments and then save some.

MR. HEDERMAN: Okay.

MR. REEDER: Just as an introduction I'll mention that we have access to the ISOs confidential data, to the bids, et cetera. And we have an office right at the ISO. They make us wear visitor passes, but we can come and go and we have our office. And so we evaluate bids, look at other data to gauge the competitiveness of the markets. And so I would just let you know we have hands-on experience in trying to deal with the data and some of the problems and some of the things you really can see there.

My overall observation -- let me point out, these are just my comments. I don't necessarily represent the New York Commission. But I think the FERC NOPR and the staff paper has done a really excellent job of identifying a lot

of the needed data analysis. We are also pleased with the AMP and some of the New York mitigation measures. So we think it's good that the NOPR has suggested that those are reasonable. And I think that the goal which seems pretty clear here to bring consistency across ISOs in terms of the type of data metrics that they produce is a real valuable one. Because it is frustrating to try to say how is New York doing compared to someone else, because you just don't have that. And I really think you're filling a need to try to do that.

One comment that I think is real important, we heard a lot today about what FERC calls competitive reference bids. The New York tariff calls them "reference levels." Sometimes we call them "reference prices"; these are the proxies for what a competitive bid would be and they're used for a lot of things. They're used for the benchmarking analysis that Frank Wolak and James Bushnell do in terms of marginal costs. They're used in New York and elsewhere as a benchmark in terms of judging whether the conduct in terms of high bids are too high or not. You compare them to your proxy for a reasonable bid. And, these are real, real important. They're what you use to decide whether to mitigate. They're what you use to decide when you do mitigate what the price should be.

There's a concern that I have, and that is that

these are very hard to estimate and there's a lot of issues there in terms of how to do it, different ways to go, lots of judgment. You know, we've tackled this problem, estimating marginal costs for like 25 years, if you go back to time-of-use rates and things like that. And the last three years in terms of the right with the New York ISO in terms of their specific mitigation measures. And a concern we have is that there's a real need for some guidance on exactly how to deal with some of the methodological close calls, if you will, or some we don't think are close calls, but maybe they don't go the way we think they should. And they think there's a problem if some ISOs will decide a marginal cost issue one way and then a year later they'll do it different. Or maybe they might do it different from one generator to another or different, you know, across ISOs.

Let me just give you an example of variable O&M costs. Should an adder be used for the high end of the unit? We've heard about that. For example, the last ten megawatts of a 200 megawatt unit. Should you have an adder a lot higher than just, you know, regular variable O&M and heat rate? How big should that adder be in terms of dollars per megawatt hour? Should it be the last ten megawatts or the last 40 or the last five? There's really guaranteed to be no consistency in how that kind of call is made the way we are right now.

Another thing to consider is the process by which ISOs come up with estimates for a given generator's competitive reference bid. The process pretty much involves the ISO and the generator. This due to confidentiality concerns no one else can be there. And so we think that that's kind of an unbalanced process because if the ISO seems to be too low, the generator is there to pull them up. But if the ISO's numbers are too high, there is no one there to try to pull it down. And that's a concern, whether these really important numbers are going to come out right.

So I would suggest that a generic methodology or some generic guidance coming from the FERC is important on this issue on some of the details in terms of which pieces should be in or out; for example, opportunity costs. Which I'll get to that one later.

I generally don't like opportunity costs in there except for hydro with a temporal opportunity cost that makes sense. But in terms of a fossil unit, I don't see any real benefit to trying to put something in there.

And so FERC needs to have either a NOPR or something to really try to pin down and narrow down how these marginal cost estimates are done. Because they're so crucial to how a lot of what we're doing here is done.

This would help with the reasonableness of them. It would help ease generator's uncertainties because

generators aren't pleased with not quite sure how it's going to come out each time they have to go to bat on one of these with an ISO. And it will ensure some consistency across the ISOs.

So I've got some other points, but I'll just leave it with that one for now. Thanks.

MR. HEDERMAN: Thank you. Mark.

MR. COOPER: My name is Dr. Mark Cooper. I'm director of research at the Consumer Federation of America. Maybe I'll try and go through it. I think I have certainly not too much more than that and that will be all for the first round.

Let me say, I was real happy to hear Commissioner Massey say he wanted somebody to think big since that's what I spend a lot of time doing. And it's an interesting panel, couple, three states have restructured and the vast majority of the states in the country haven't and so I'm going to speak for them. And as I see it, the SMD stand for the proposition that the public will be better served by federal regulators implementing a very complex scheme of mitigation and monitoring to control market power in a market that's been deregulated. Better served than a simple scheme of cost-based regulation of vertically integrated entities.

In looking at the history of regulation I suspect that proposition was true in the north and east for a small

part of the 20th century. And you will see the states where it was true where regulators did a very bad job. But, actually, in the west and the south that proposition probably was never true and is not true today. And that's why you're hearing a lot of screaming and shouting about the SMD.

CFA has long believed and urged the Commission to adopt an aggressive highway model for the transmission system have an open and non-discriminatory highway for electrons in the country, the SMD rejects that clearly. Chooses to impose a market model which will allow the price of transmission to rise to whatever the market will bear and ultimately that price is set by deregulated spot markets.

Market monitoring and mitigation in that scheme bears the entire weight of consumer protection. And in the caption to the notice for this proceeding, there is no mention of just and reasonable rates. So this proceeding is not about just and reasonable. It's about undue discrimination.

In order for the SMD to accomplish that goal, you need an iron-clad mechanism for preventing abuse in a market that has proven very difficult.

Now, such a mechanism, I think, needs sharp and clear definitions of what is illegal, strong penalties to deter such conduct, and vigorous enforcement mechanisms to

catch wrongdoers.

Frankly, I'm not convinced that the SMD accomplishes the first two points, and obviously FERC has had some difficulty demonstrating to the American public it can do the third.

In theory the FERC knows what it wants to make illegal but in practice it really cannot measure it. The market monitoring we see is an incredibly complex array of indices and measures at three different levels, structure conduct performance, and clearly some will say market power and some will say not and we will fall to squabbling while consumers are paying too much.

So the first suggestion I would give is that any of those measures, structure, conduct, performance that indicates the presence of market power should trigger penalties. Not the majority, not this one or that one, any indication at any level of structure, conduct, performance should indicate the need for mitigation.

Now, because the entire concept is based on scarcity rents, the FERC is hesitant to find monopoly rents. But it really has no idea where scarcity rents stop which it wants to promote. I'm not a big fan of scarcity rents, but it wants to promote scarcity rents. It doesn't know where scarcity rents stop and monopoly rents begin. And every time it gets in the vicinity of the dividing line in our

view, it opts to see scarcity not monopoly.

The best example is in the benchmark. We believe that the benchmark has been polluted or could easily be polluted. It must be a rigorous estimation of costs.

Opportunity costs are not hard costs. Adders are not hard costs. We want to see no hypothetical costs in the calculations. That is the benchmark. That is the should.

If you're going to have a regime based on marginal costs where you're supposed to get your fixed costs from scarcity rents when you're in for marginal, you cannot be including anything but hard marginal costs in the benchmark.

As I understand it, FERC would prefer to see capacity markets go away. But the irony is that given FERC's inability to deal with capital, you need something to indicate where capital costs are and that's what capacity markets do. We think they also make obtaining reserves which we think is extremely important, easier, but obviously those markets too have been subject to abuse and they must be reformed.

Thus, as we see the first issue, clearly defining what is illegal, we are nowhere near where we need to be before we let consumer's bills be set in this market.

With respect to the penalty scheme it's ill-defined in the SMD. FERC invites the transmission organizations to impose penalties on both market

manipulators and load-serving entities. The former are to be punished for bad acts, the latter are to be punished for mistakes, getting caught short.

The magnitude and frequency of the penalties is unknown at present. It is notable, and I think unacceptable that the ITP would have the power to turn the lights out as I understand the SMD.

Transmission organizations might try to protect consumers, but the running battle between FERC and the Cal-ISO does not give us a great deal of confidence that if ITP becomes too consumer friendly it will be able to really do a good job of consumer protection.

I think the problem of penalties is exacerbated in the single-priced auction, and it's like I've said many times, I'm not a big fan of single-priced auctions. If we penalize the transgressor, then we leave the windfall in the pockets of all the people who didn't abuse the price, but were paid the abusive price. Of course, if we hold the transgressor hostage for the entirety of the overcharge, he goes bankrupt and consumers don't get their money back anyway.

So, I agree, it is hard to penalize people who are standing there and did nothing wrong and simply enjoyed the windfall of a manipulated price. But it ought to be just as hard to take the money out of consumer's pockets,

and in this scheme it's not.

As an enforcement agency, obviously FERC has had its problems over the last couple of years and I don't need to beat on you guys about that. I'm sure you've heard plenty.

The final point is that even if FERC were to dramatically improve the monitoring of markets at their peak, including pivotal supplier analysis which is absolutely essential, as you look across this country, market after market has pivotal suppliers who can in fact profit handsomely. And so you need to extend well beyond the mere peaks.

But even if you do, we think you're leaving a substantial part of the problem unaddressed. FERC really only wants to look at those peak hours in markets that are tight, but a great deal of abuse goes on off the peak and on the shoulders. And in California we learned way down the demand curve you can make things pretty bad.

Ironically, the more attention you devote to the peak, the more effort you will see at manipulation of prices on the shoulder. So you really do need to look across a broad range of situations in the marketplace.

Ultimately we would prefer to have the FERC go down a different road. And I really do have to say that since even though this was a narrow technical conference,

Commissioner Massey invited a little bit.

What we really would have liked to see is for FERC to create an administrative mechanism for the interstate transmission system in which these new entities, and we have been supporters of creating a mechanism for expanding the interstate highway system for electrons.

So now we want this new regional entity -- in most of the country none has existed -- to take on the responsibility of operating, planning, expanding the interstate highway system. That's a big job. We think those new independent entities which have not existed could actually administer a regime of transmission rights without charging whatever the market will bear.

It is quite clear that the past system failed to produced non-discrimination, but the past system was not administered by this new independent entity. So we will encourage FERC, as we go forward, to step back, to rephrase, if you will, their approach to phasing. Let's create these new institutions. Let's show they can actually run the grid. Let's show they can expand the grid. Let's see if they can produce a regime of non-discrimination. And if they can't, I think you'll have a much better case for imposing a market on a commodity that really doesn't have a lot of characteristics of a market commodity. Thank you.

MR. HEDERMAN: Thank you. Ms. Goulet?

MR. GOULET: Yes. My name is Denise Goulet. On behalf of the Pennsylvania Office of Consumer Advocate. And I would like to note at the outset that I come -- I represent a state that's already crossed the threshold of whether we want to be part of competitive markets. We unbundled our markets. We went to retail competition as early as 1999.

For the first few years it benefitted consumers in the State of Pennsylvania. Recently we have seen some drying up of offers to retail consumers by competitive suppliers. However, we remain committed to trying to make these markets work. And that's why it's so important that this Commission do what it's doing today and put a whole lot of attention on how they're doing market monitoring.

Having said that, the staff paper, the proposed metrics in staff paper are a good start. We don't think that all of the data is there that you need to be looking at or that the market monitors need to be looking at. But the first thing at the outset that I think we need to focus on is what the goal is that we're looking for. And the goal that we are looking for is for the market monitors to have access to sufficient data not to make sure that the spot price is exactly right, but to make sure that it is a competitive market, that the market is working efficiently, that the market is working well, and that the prices are

telling the whole story.

Now, if the prices are not telling the whole story, then the market monitor needs access to data that will help explain where the problems are and how to correct those problems. And in connection with that, we believe that there are several missing areas of indices.

One, and I throw my hat in the ring with Susan Kelly on this, is the bilateral contracts. The market monitors may not be able to have sufficient data from the spot market that tells them the whole story. They need to be able to access, at the very minimum to ask for bilateral contract data in a situation where they think access to that data is important to get the whole story of what's happening in those markets.

Another area that we feel is not in the proposed indices in the staff paper is the area of capacity markets. Now, perhaps the failure to include capacity markets has more to do with the fact that the SMD is not focused so much on a capacity market. We think that that is a big mistake and that's something that we're going to address very vigorously in our comments to the Commission on the SMD.

But having said that, capacity -- we would really encourage FERC to provide the opportunity for capacity markets because they do provide transparency for those fixed costs, for what it's costing to invent new generation as

well as providing for reliability.

Having said that, if you will allow for capacity markets, it's critical that the price indices also include information on the capacity markets. We have experienced in PJM market power problems in the capacity markets. And so it's critical that if you're going to have those that they also be monitored vigorously.

Other areas that there are missing indices are related markets, gas markets, oil markets, energy derivative markets, emissions markets. And we're not suggesting that all of these have to be monitored by the market monitor to determine if there are anomalies or strange things happening, but they provide good alternative data that can be used in the establishment of benchmarks, in the establishment of looking at the overall competitiveness of the market.

Now, having said all that, there's two other areas that were discussed this morning that I think are critical for this Commission to look at. One is this issue of the independence and the location of the market monitor. We have been a strong supporter of having the market monitor located within the ITP, the RTO, the ISO. And the reason for that is the -- I think the New York ISO this morning may have said that they need to be able to be right there on the floor, have a very good working relationship with the people

who are operating these markets, who are designing these markets, to understand the anomalies of what could be happening in these markets.

If you want to understand what's going on with price trends, first you have to understand how the markets are operating and also the design in those markets. And having the market monitor located on the floor within the ISO goes a long way toward accomplishing that goal.

The other issue I wanted to address this morning, Ms. Sheffrin from the California ISO raised the issue of the pivotal supplier or the supply margin assessment stream and how critical that was to providing her information for what was happening in California's markets.

I would submit to you that it's critical not only for California, but for every RTO, ITP, or ISO out there. I believe that the proposal that the Commission put out was to adopt these new screens only in areas where RTOs, market monitoring wasn't in existence or wasn't effective. And I would submit to you that even though you have a very, very good RTO market monitoring unit, and I believe we have one in PJM, I think that you still need to be looking at and provide the market monitor with access to data to undertake the analysis of the supply margin assessment screens and pivotal suppliers.

Because if you have problems -- if you think

there are problems in the energy market, they are so much more liquid than what you see in the capacity markets. And what you have in the capacity markets is even a higher concentration of ownership of the generation assets and less demand response than you see in the energy markets. And so we would submit to you that these assessment screens are just as critical in RTO areas as non-RTO areas.

MR. HEDERMAN: Rob.

MR. GRAMLICH: Thank you. I don't want to get too far off track, but since Mark raised these extremely provocative points, it's getting late in the day it might be at least fun to get into it. You mentioned the point that in the west and the south you don't need SMD. Earlier today we heard from one of the lead enforcement attorneys in the country, for the U.S. Department of Justice, Jade Eaton, that she cannot monitor market power outside of the SMD markets. You also said that we need clear enforcement, clear rules so that FERC and others can enforce the rules so that we can have just and reasonable rates in these markets.

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What is your alternative proposal? Do you have one? I mean, we'll take criticism on pieces of this, but what's the alternative?

MR. COOPER: My answer is that the people in the west and south, as far as I can tell, do not want to live

under SMD. And if you don't create the SMD, certainly in the south they will not be afflicted by its weaknesses. The SMD is essentially a rent machine. You create a variety of rent -- scarcity rents by design, monopoly rents by accident because of the nature of these markets, and then -- and, again, we know that these markets are dripping these rents. And then you create a bunch of cops to chase the robbers. And the historical approach in this country has been to not create the rents. To simply not allow excess scarcity rents or market power to be abused in those markets.

And so the answers that I suspect the enforcement agencies are right is that once you allow the crimes to be committed, you need all kinds of market monitoring and accountants and cops to try and catch the criminals. The answer is, the old system did not allow this set of crimes to be committed. There will be many who will tell me there were other sets of --

MR. O'NEILL: Mark, let me, since you weren't here this morning, Jade said there were investigations in non-SMD markets and she had trouble trying to figure it out.

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MR. COOPER: Well, you know --

MR. O'NEILL: So that she was investigating an alleged crime in those markets.

MR. COOPER: And it seems to me that the -- I'll

be interested to know the magnitude of that crime compared to the --

[Simultaneous conversation.]

PARTICIPANT: We are too.

MR. O'NEILL: Well, she said she could figure it out because she didn't have the right data and that SMD gave her the right data to figure it out.

MR. COOPER: You mean SMD in terms of establishing a market clearing price at whatever the market will bear?

MR. O'NEILL: Gave her the information to pursue the antitrust action.

MR. COOPER: I understand, and my answer is that the consumer will end up with a lot less money in their pockets in this system which allows the market to set the price and then try to figure out who is cheating on that price.

MR. O'NEILL: Mark, there seems to be a business opportunity if you're right. If the SMD markets are licensed to collect all kinds of rents and make people wealthy, the consumers could go long in the bilateral markets and then collect all the rents in the short-term markets and be much better off.

MR. COOPER: There's no reason to believe that the bilateral markets will not capture a substantial part of

these rents. Once you show the rents, why should anybody sign a contract that doesn't transfer?

MR. O'NEILL: Then how about the consumers go cost of service in the long-term markets and collect the rents in the SMD market?

MR. COOPER: I'll tell you, we would like to stay cost of service. As I've said in the past, I believe SMD is coercive because it exposes the people who would like to be cost of service to risks that they are unwilling to bear.

MR. O'NEILL: Such as?

MR. COOPER: Well, from my point of view the transmission rights risks. That is, as far as I can tell growth and change have to be monetized in the new transmission market under the SMD. And that is going to expose them to certain risks.

MR. O'NEILL: Yes, somebody has to pay for the growth of the transmission system.

MR. COOPER: Yeah, and Sue Kelly had the right answer. We don't discriminate against you on when you were born or where you move to. And so we actually engage in a cost-based historical of building transmission systems and frankly we did a darned good job until we started fooling around with these markets. And so the answer is, you know, a system based on costs that averages and says, you benefitted today.

Sue Kelly was absolutely right, the people who are complaining about the cost of the transmission wire today forgot that they shared the cost of the transmission wire yesterday or might share the benefits tomorrow.

So from my point of view, that cost-based market, especially with transmission, let's be clear, the scarcity rents in transmission are substantially non-economic. That is, you can identify where congestion is to say, we need to build a wire there. And society has said, we don't want wires there for non-economic reasons.

Then the question is, well, should the people living there pay the full scarcity value of a social decision not to build a wire there? Frankly we don't want to monetize that scarcity.

MR. O'NEILL: The scarcity value accrues to the load.

MR. COOPER: Until the load grows. And I've heard the argument that people misread the permanence of their transmission rights. And I'm told that they will -- they will make them forever. That was not in the NOPR, as I read it, and a lot of people have agreed with me.

My question is, I don't need this headache. And frankly, the headache is a lot more painful in California and the west than the feel-good feeling in other places in the country. The benefits are not there. The risks are much

greater than the rewards and I think two-thirds of the cry have told you that.

MR. GRAMLICH: I guess if you're willing to live with a non-transparent market it's sort of the, you know, the drunkard and the lamp-post effect.

MR. COOPER: I'm willing to live with a cost-based system that allocates the costs and benefits in a political process. And that's the system we lived under and you haven't convinced me or my members or two-thirds of the country that a system based on whatever the market will bear when you really don't have good markets and you have all kinds of uneconomic reasons that there will be scarcity rent, people don't want to live there.

MR. O'NEILL: Two-thirds by what measure?

MR. COOPER: Two-thirds by the number of states that have chosen not to restructure and that have sent letters to Congress and elsewhere complaining about the SMD.

MR. O'NEILL: What about the ones that have supported SMD?

MR. COOPER: Well, you know what, the ones that are supporting SMD can live there. I mean, get the map out. You'll see the map is that these folks have gone there. So let them run their RTOs that way.

MR. O'NEILL: And the midwest --

MR. COOPER: And then run RTOs in the west a

different way.

MR. O'NEILL: The midwest ISO?

MR. COOPER: The midwest ISO is here. I mean, so if you look at those states, there's a certain set of states.

MR. O'NEILL: California?

MR. COOPER: California there seems to be a certain coercion on California. But California has an ISO I like, you don't. You have tried to disband it.

MR. O'NEILL: Do you like the proposal in MDO2, the market design -- their new market design proposal?

MR. COOPER: I haven't evaluated their proposal.

MR. HEDERMAN: Mark Reeder, you mentioned that you have staff on site at the ISO. Could you talk a little bit more about how that works and what has been particularly useful about that and so forth as kind of a pioneer on a path we're just about to begin?

MR. REEDER: Sure. Let's see. I guess the main message is -- well, let me set it up this way. I heard a comment this mornign that it's good to first look at the market performance as a whole and where you see a problem, then you go look at individual behavior.

Well, we found that you would miss a lot if you did it that way. Because we have access to the bids and in looking right at the bids sometimes you can see something

that, you know, almost knocks your chair over and it causes you to get kind of interested and then you start chasing around trying to figure out what it is. Our ISO does that a lot. They look at bids and I think as the generators complimented them on, they call up the generators and say, you know, why is your bid so unusual and try to get the story.

Well, we looked at bids and we saw some things that really revealed to us some problems in the market. So one of the lessons is to, if you look at the behavior itself, of individual players, that can really tip you off to something that may not be right and after you check it out, it may prove that it wasn't right.

Let's see, we also -- we do comparisons of the supply curve where you put in marginal costs for your supply curve -- to the supply curve where you put in the actual bids. And this is like a Lerner Index, but it's not a price versus marginal costs, it's bids versus marginal costs and it's comparable because in the competitive market the theory is, the bids should equal the marginal costs.

So when you put the two supply curves next to each other, the difference between them is the measure of the extent to which the behavior is deviating from competitive behavior.

And, actually, I want to make a point on that.

Let me make a point on the Lerner Index. I just mentioned a variation of it. So we've heard three types today and let me just put them in their place. The one we've heard the most about is where you take the system and you dispatch it with a benchmark with marginal costs instead of bids and see what the price would be for, you know, two in the afternoon. You do all the hours. You get a bunch of prices based on a benchmarking model and you compare that to the actual prices. That one is valuable, but that one, as you pointed out, really depends a lot on how your benchmarking modeling mimics the actual market and that's a weakness of it.

Now, another type of benchmarking, I don't think it was called a Lerner Index, but it's the kind of thing that Joe Bowring at PJM does and that's where you look at the cost of new entry and you compare that to what that new entrance revenues would be for a year. So the annual cost of new entry is your benchmark. The revenues they would get at prevailing prices is your price. And that's more of a long-run Lerner Index that tells you in the long run, would this market give enough revenues for this generator. And you've got to be careful how you interpret it. Because if the revenues are too low, you don't jump to conclusions because if you have 30 percent excess capacity, the market should be delivering too low revenues for new entry.

An example I like to give is I'm from Florida and

in Florida the condominium market is competitive. But around 1992 the market clearing price for condos would come close to supporting new entry because they were overbuilt and the price had crashed.

But, nonetheless, this is an example of where the market should be in long-run equilibrium, the cost of entry.

The former one, the one Frank Wolak and folks do, that's a short-run Lerner Index where it says, given the amount of excess capacity we've got, or shortage we got, is the market producing a number that's similar to what a competitive market would produce if it had excess capacity or shortage.

Now, this one that we have been working on and where we do more of an eyeballing, but we would like a more rigorous approach is if you looked at the comparison of the bids to the marginal costs and you just averaged them over the year. You would need to be clever in how you aggregate them. You wouldn't want to use the early parts of a nuclear unit, it might be negative in the average. Just pick the parts for the relevant part of the demand curve, maybe the parts beyond the minimum load segment of the generators and you get an average deviation in bids and marginal costs and that can give you an indication that would be useful to compare to other systems.

So I think a lot of what people do with looking

at bids would be really helped if you had what you guys are trying to do is to make it more consistent across regions.

MR. HEDERMAN: Thanks.

George, I think you said you wanted to come back to a little more detail on, I think it might have been a comment related to the RSACs.

MR. STOJIC: Well, yeah. I think one of the things that I didn't see in the SMD NOPR, I guess, was a clear explanation of the role that the RSACs would play especially with respect to market monitoring. And I think I want to emphasize that, as you can pick up from the conversation here, there's a lot of confidence building that needs to be done in the market and in some parts of the country. And it helps to have the states play a role. The states need a level of confidence. And by bringing them into the process, having the market monitor reports go to the states, have information available to the states and the market monitor having access there I think would go a long way towards building that confidence.

MR. HEDERMAN: Okay. My sense is that at a level that aggregates the information so that state-specific information isn't available at the regional level that that's something that could be quite workable. My sense from the conversations I've had on that matter.

MR. STOJIC: I'm not sure what that means if I

could ask you. I think states have an interest in specific data and detailed data. I'm hoping you're not ruling that out.

MR. HEDERMAN: No, I don't think that anything is ruled out at this point, but in the conversations that I've had with individual utilities there are issues that come up regarding how it gets aggregated. I think as we've talked about that today, there's a need to shield individual players of transactions, but there are probably ways to do that within the context that is still usable for regulatory review.

MR. STOJIC: Okay. Hope so.

MR. HEDERMAN: Any other questions?

[No response.]

MR. HEDERMAN: Panel, do you have any other points that you wanted to raise?

MR. COOPER: There was a point here about the Lerner Index and I wanted to make -- I'm a big fan of the Lerner Index and the answer is that when the supply and demand elasticities are as low as they are in this market, it doesn't work very well which is why you're struggling so much with having to look over people's shoulders. And I understand, you know, that people will say, why are you looking over my shoulder? And the answer is that -- because consenting adults in these markets will screw the consumer.

Let's be clear about it. Market forces are too weak.

Fascinating, I was sitting in the room for the overflow and someone talked about this marginal cost. And the person on the screen said, "we've got to have our fixed cost in that benchmark." And, of course, I said, "it's not a marginal cost if your fixed cost are in there." And the person said, "How am I going to get my fixed costs covered?" And the answer is straightforward. You're supposed to get your fixed costs covered when you infomargin. And this is an industry player who doesn't understand, his bid will have fixed costs in it. And you will draw those curves and that will be off the Lerner Index. And that is what happens when you create a scheme that is driven by scarcity rents and you have no idea what the scarcity rents are. And so bilateral contracts will reflect those as well.

Bids at every hour of most days or most hours of most days, will have the bidders doing exactly that; putting above marginal costs into their bids and you've got to look at all those bids all the time if you're going to claim to have a system that's tending towards the efficiencies you are looking at. And that's -- of all the things I've said, that benchmark has to be a hard cost. The minute you start fiddling with it, you have lost your theoretical basis for even claiming this system is better for me, not to mention your empirical inability to actually make it work that way.

MR. HEDERMAN: Denise.

MR. GOULET: There was a lot of discussion earlier and a fair amount of consensus on this issue as to whether the market monitor should also monitor the functions and the operations of the ITP or the RTO. And I wanted to give you a different perspective. We don't believe that the market monitor should be monitoring the role of the ITP or the RTO. That's not to say that that shouldn't be done, we just don't think that that's the job of the market monitor.

The market monitor should be looking at how the market participants are behaving, not only generators, but I would agree also load. How load is acting and how they are bidding. But to add to the market monitor's responsibility the additional audit functions of looking at how the ITP is operating the system will detract from the market monitor's ability to really do a good job monitoring market participants.

If there is a real need for a monitor of the ITP or the RTO functions, that should be done by a separate entity, a separate process. But we think that the market monitor has enough on their plate just looking at what's happening in the market day-to-day without adding on top of that the issue of whether the ITP is doing its job.

MR. HEDERMAN: Yes.

MR. REEDER: A couple more comments. But first I

want to agree completely with what you just said. We think there is a need, perhaps for an auditing function or some other entity to look at the ISO and how its doing its job. But we wouldn't want it to be the market monitoring unit because of this working relationship. And furthermore, I think even Steve Balser of the New York ISO mentioned this, this other party like an auditor or a third party should look at what the market monitoring unit is doing in terms of implementing what its job is to implement.

The market monitoring unit with the help of an advisor like in New York, David Patton, can be creative and look and see what to do in proposed mitigation measures, but once the mitigation measure is proposed, adopted, by the FERC and is ready to go, I think there's a need for some entity to ch to see if it's being implemented as approved, as ordered. Because of the confidential nature of this, the participants, the consumers have no way of knowing whether it's being implemented as it was supposed to. And I think there is a real need for that confidence from another party.

In that same vein, I think it would be really valuable as some of the earlier panels, the academic panel pointed out to have -- call it an extra pair of eyes -- look at the confidential data. In New York we have the New York ISO looking at the confidential data and then FERC has the authority to do so. And we're really glad that we're there

as an extra pair of eyes. But, you know, a lot of states don't have access to data. A lot of consumers really don't have much sense as to who else is looking at this stuff and it needed for the confidence. But also just in terms of analytics, I think it's where the academics were coming from, different people come from different backgrounds or different biases and they'll chase different things and they'll find completely different things. And it's a little bit too centralized just one unit being able to look at this stuff. I think if you have more than one you're going to find out a lot more and you'll be glad you found out.

And I had an answer, it's too bad that Commissioner Massey isn't here, but I wanted to answer his question about the balance between mitigation and having enough generation. And, really, I think it gets to the ICAP market or the resource adequacy market. In theory you don't need an ICAP market. You just let the market do what most markets do and they don't have these special artificial things and you get a level of reliability in hotels in New Orleans that's just what falls out of the spot prices.

But in electric, that's not good enough for us. We for legitimate reasons need to assure a level of reliability. So we're not willing to accept the level we get with a zero revenue stream from ICAP.

So if you put a three-dollar-per-kilowatt-month

revenue stream on ICAP, by definition you'll get more generation. You put five dollars, you get more still. You put seven dollars, you get even more still. And the ICAP markets are the thumb on the scale of how much the market is going to naturally produce. You could just put more money in it to get more generation or less money to get less and so you can mitigate the peak hour energy market where it's not that clear that that market is ready to handle this really tough job of solving this balance between proper prices and amount of generation.

You can mitigate that to make sure it doesn't go crazy on you and try to put the money flow in the ICAP market. Now, of course, that creates this concern that we really have to be aware of is that in the ICAP market, as I think someone else mentioned to you, have a market power concern. Because if you put a requirement on consumers to buy and there's no symmetric requirement on generators to sell, then the consumers don't have a real good way to say no thank you to a high price and we need to make sure we have that set up.

Now we're working on this pretty hard in New York with a mechanism that would provide more certainty when there's excess capacity to generators, but it would keep the price from spiking so badly when you get close whether it's artificially close through the market power or just regular.

But, nonetheless, the point is, the ICAP market's whole point, as far as I can tell, is to artificially induce more generation. And that's how you got to do it.

MR. GRAMLICH: Do you have demand side participation and how much in the ICAP market?

MR. REEDER: Yes, we do. We have -- you know, I don't know exactly how much. I have one of David Patton's charts here. We have something called "special case resources" and that's demand side participation. It also includes generators that are behind the meter, hospitals and things like that. And between that and our regular demand side of management, there's a \$500 energy block that we have something like 1300 megawatts that kick in.

Now, only a portion of that, something like -- I won't throw out a number, but it's less than half, is eligible to be a demand side ICAP provider.

MR. COOPER: I would like to address the demand side participation for a moment because I believe Commissioner Massey mentioned. Obviously certainly the SMD and Dick O'Neill whenever he presents it says, you know, we have to have that component. And I agree. We believe you could administer a program and probably elicit a lot of it even though I don't think it would be that much different if you did it administratively.

But I want to make two points about demand-side

bidding. One, and I testified in Nevada and Florida, and those are states not whole RTOs, so it's interesting. But in places like that, demand side bidding is essentially tell the people to go to New Jersey for the summer. There's no industrial load and you really do need your AC in those climates, folks. And so you have to understand that that is a constrained possibility in some places.

Second of all, when demand side bidding becomes shutting down factories, we worry about maybe some profit sharing for unemployed laborers who are now, you know, the utility is -- the company is optimizing its value. In a certain sense there's been a lot of demand side bidding in the northwest and there's an awful lot of unemployment and they think they would like to get back to a market that didn't require induced people to shut the factories down in order to keep the lights on.

And, so, again, we think you can -- it's optionally critical to get more response on the demand side, by you have to recognize that (a) there are some places it doesn't work and (b) we really do have to think about, this is a partial equilibrium analysis, if you will. There's a bigger economy out there and you can't burn the economy in order to keep the lights on.

MR. HEDERMAN: Well, thank you very much. This has been another enlightening panel and I think we've had a

full day and we'll be very busy digesting this information.

Thank you.

[Whereupon, at 5:00 p.m., the meeting was  
adjourned.]